UK Association for Accessible Formats **UKAAF**

General and Vocational Examinations for Candidates with Visual Impairment

Best Practice Guidance for Modifiers and Producers

UK Association for Accessible Formats (UKAAF)

Because format quality matters

Disclaimer

This guidance may include references to external websites, services or products for which UKAAF accepts no responsibility. This information is given without any representation or endorsement of those websites, services or products.

Who is this guidance for?

This guidance is primarily aimed at modifiers and producers of examinations in braille and modified large print. It is effective for examinations from August 2017 until July 2018.

Note: The guidance given in this document for braille is based on Unified English Braille (UEB), being phased in from 2015 as the standard for the UK. For papers being modified or produced in the older Standard English Braille (SEB) please refer to the August 2012 edition of this document.

Joint Council For Qualifications (JCQ)

29 Great Peter Street,
London
SW1P 3LW
Tel: 020 7638 4137/4132
Email: centresupport@jcq.org.uk
Website: www.jcq.org.uk

The General Awarding Bodies

AQA, City and Guilds, CCEA, Edexcel, OCR, Pearson and WJEC/CBAC.

Consultation Version May 2017

This document is available at www.ukaaf.org/exams

Contents

1 Introduction

This document, much of which has been drawn up by the RNIB/VIEW Assessment Committee, has been produced by UKAAF in conjunction with the Standing Committee for Examination Candidates with Special Requirements on behalf of the Joint Council for Qualifications (JCQ). It should be read in conjunction with the relevant chapter of the JCQ publication 'Access Arrangements and Reasonable Adjustments: General and Vocational Qualifications' which is available at www.jcq.org.uk . The document is effective for examinations from August 2017 until July 2018, subject to revision, when necessary.

Its purpose is to set down a specification for the modification and production of examination papers for candidates with a visual impairment. The Awarding Bodies are committed to comply as far as possible with the recommendations contained within this guidance document. There may be occasions, however, when an Awarding Body is unable to provide material in the format requested because of the nature of the original paper from which the modification is produced. In this event the Awarding Body will ensure that the candidate is provided with a modified version that complies with these guidelines subject to the constraints of the standard paper. It is expected that the guidelines will be adhered to by all modifiers and producers in this field in line with instructions received from the Awarding Body. The aim is to secure a consistent high quality across the range of subjects, modifiers, Awarding Bodies and producers involved, so that candidates will not be hampered by unsatisfactory or unfamiliar presentation of material in the examination situation, and a uniformity of testing standards is thereby ensured.

It is intended that papers produced to these standards will meet the needs of the majority of candidates with visual impairment.

Where this is not the case, centres should contact the Awarding Body concerned to discuss the candidate's requirements.

The document consists of five sections.

A   General Responsibilities of Modifiers

B   Braille Papers

C   Large Print Papers

D   Screen Reader Software

E   Procedures for Agencies

Sections B and C relate both to modification and transcription. Points for the modifier's action are in blocks marked **M**, whereas the main text sets out the standard method for the transcription agency to follow. It is important that the demarcation between these functions is well understood by those concerned.

It is impossible to set down within a reasonable space all the information which would be required to give a complete specification of these functions in this highly complex area. It has, therefore, been necessary to make reference to important standard books and documents stating rules on braille coding, and in places to state the imprecise but nonetheless essential criterion that 'braille examination producers [must] have a demonstrated ability in transcribing such material to the required standard'. All the reference books and documents referred to in this document are available from either: RNIB, Bakewell Road, Orton Southgate, Peterborough, PE2 6XU, www.rnib.org.uk/shop (Help Line 0303 123 9999); UK Association for Accessible Formats (UKAAF), www.ukaaf.org; or International Council on English Braille (ICEB), www.iceb.org. (RNIB may provide hard copy print or braille

versions of documents produced by UKAAF or ICEB, downloadable as electronic files from their web sites.)

2 Section A - General Responsibilities of Modifiers

Examination paper modifiers should be experienced subject specialists who have experience of working with students with a visual impairment. The purpose of modifying an examination paper is to make the paper accessible to a candidate with a visual impairment. It is the role of the modifier to recommend to the Awarding Body what action is needed to achieve this end. Questions should only be altered by the modifier when it is necessary to do so in order to provide this access. If a modifier needs to alter a question, the following principles should be applied.

- The amended question must assess the same skills, knowledge and concepts as the original question in the print paper and enable the candidate to meet the same assessment objectives in National Curriculum subjects.

- The question should be of an equivalent level of difficulty as the original.

- Any alteration should preserve the balance of the original examination paper in terms of both the content and the weighting of questions.

- A modified question should not require candidates to spend a disproportionately large amount of time to gain relatively few marks.

- Where modification of an existing question is not possible, the modifier may propose a replacement question which attempts to meet the same assessment criteria for approval by the

> Awarding Body. In the event that a replacement question is deemed unacceptable by the Awarding Body, the modifier and Awarding Body should consult to determine what action will be taken, with due consideration to ensure the minimum of disruption or confusion for the candidate.

Awarding bodies should provide modifiers with as much information as possible to assist them in making informed judgements on the issues listed above, including details of the assessment criteria to be tested in individual questions.

An Awarding Body may ask a modifier to recommend modifications to a standard print paper or to comment on the Awarding Body's own proposed modifications.

The modifier should recommend to the Awarding Body any exceptional additional time allowance which would be appropriate for particularly difficult questions or papers. This will not preclude different arrangements being requested by centres for individual candidates.

The modification of a paper may lead to the need to amend the overall instructions of the paper or the instructions for individual questions.

Consistency from year to year is of importance, particularly because candidates may make use of past papers for practice. Where possible, modifiers should therefore refer to past papers as a basis for making their modifications.

2.1   How modifiers should present instructions

Modifiers should not attempt to mark up papers for transcription, except where the text or content is to be changed or if there are other special requirements. Transcribers and diagram makers are expected to be familiar with, and to follow, the standard

transcription methods as explained in Sections B and C of this document and in the references given there, without additional instructions from the modifier. Modifiers should, therefore, be familiar with these techniques and should, where possible, avoid giving instructions which contradict them. However, where there are special reasons for diverging from the standard methods, these should be stated as modifications and the modifier should also include an additional confirmatory note to the transcriber so that it is clear that a mistake has not been made.

Transcribers should not, however, be expected to make modifications as indicated in the blocked sections marked **M** in Sections B and C without specific instructions from the modifier to do so. The onus is on the modifier to initiate these.

Brief amendments to papers may be written directly onto the print copy, if convenient. Where more extensive amendments are required, such instructions should be written on a separate sheet leaving the paper clear, so as not to confuse or hinder any marking up which might be done at the transcription stage by editors for transcribers to indicate layout or braille coding, etc.

Where questions appear in more than one paper, or the paper appears in more than one tier, any modifications should be done in the same way. The modifier should provide full modification instructions with each question/paper, as the producer will not necessarily be able to deal with each case simultaneously.

Modifiers should complete and return the cover sheet provided by the Awarding Body for each paper where this is provided. They should use this sheet to draw attention to particular issues arising from their work for the benefit of the producer, Awarding Body and examination centre concerned.

Modification instructions for braille and large print should be kept separate and clearly identified.

Modifiers should request that they are consulted about any changes to their proposed modifications by either the Awarding Body or the producer of the modified paper. They should also request an opportunity to see final copies of the papers which they have modified. If possible, they should see these papers before the examination is taken, in order to check them for accuracy. Where for reasons of time this is not possible, they should request that a copy of each modified paper is sent to them subsequently to enable them to judge the quality of the final product.

2.2   Confidentiality of examination materials

Awarding bodies are responsible for the security of the papers and will require all suppliers in the modified papers process to sign and adhere to a confidentiality agreement. Modifiers must understand that examination material sent to them for modification or adaptation is strictly confidential until the scheduled date of the examination concerned, and it must be treated as such.

Failure to maintain the confidentiality of a question paper could compromise the security of an entire examination for many thousands of candidates and jeopardise the future provision of modified papers.

Examination material must always be kept in secure conditions whether being worked on at home or in a school or college.

Papers should be locked securely away when not being worked on.

Papers should never be left unattended in areas where others not authorised to do so might have sight of them.

Papers should never be worked on in public places or on public transport.

The contents of question papers should never be mentioned to or be discussed with others not authorised to have access to the material concerned.

Where an Awarding Body provides special stationery for the despatch of question papers and other materials, this stationery should always be used.

3 Section B - Braille Papers

This section relates both to modification and transcription. The main text sets out the standard method for the transcription agency to follow. Specific points in relation to this for the modifier's action are in blocks marked M, supplementing the general statement of modifiers' responsibilities given in Section A.

3.1 General

General reference: *The Rules of Unified English Braille* (2013), authorised and published by the International Council on English Braille (ICEB), or as amended in any more recent editions or statements from ICEB. Supplementary guidance for UK users is produced by UKAAF (UK Association for Accessible Formats). Papers must be transcribed in accordance with the rules of braille as stated in this standard reference and in the UKAAF guidance, although any special modifications of layout conventions for examination papers as given in the current document should be adhered to.

Note that some of the reference documents referred to in this section may not yet be available in a UEB version. Adjustments for this may therefore be needed when reading such documents, e.g. in the braille coding shown in examples.

Before starting to braille an examination paper the transcriber/editor should look through it carefully to see if there are any special difficulties. All papers should have been checked previously by a modifier, making any required amendments to the questions, but if there are any points which still seem to require attention the transcriber/editor must contact the Awarding Body for advice. Mistakes in the print copy sent out are not unknown: corrections should only be made with the approval of the Awarding Body and these should be marked on the print or stated in a separate note attached to the paper for return to the Awarding Body with the paper. If there are special transcription difficulties, reference may be made to one of the major braille publishers for advice, if necessary, with the approval of the Awarding Body.

It is a requirement that a print version of each braille paper is produced, to assist readers, scribes and invigilators. Further details are given in the section 'Print Versions of Braille Papers' below.

3.2 Materials

Braille examination papers should be embossed on good quality heavyweight paper (100 gsm minimum).

The page size should be in the ranges 36-40 cells, 24-28 lines (although special large pages may be required for diagrams).

Diagrams should normally be produced on swell paper, with thermoform being used only where the type of diagram requires this approach - see the section on diagrams below.

Diagrams may also be required on drawing film (a thin plastic film which may be copied and then further added to by the candidate in the examination).

3.3 Amendments and explanatory notes

UEB provides 'transcriber's note indicators' which in general transcription work are used for additional explanatory notes by the transcriber, not part of the original text. For braille examination papers the use of transcriber's note indicators should in general be restricted to transcription notes as such, and not used to distinguish text modifications, or insertions, etc. made for the braille version of the paper. This allows the braille paper to read more naturally, as a version in its own right. Examples of where transcriber's note indicators would be used in examination papers include for an explanatory note explaining the column headings of a table transcribed in paragraph form; to explain transcriber defined symbols or typeform indicators; or to insert notes within the transcription of a print or web page to explain the layout or other relevant features at that point.

In the following, use of transcriber's note indicators is stated explicitly, but is represented in this document by square brackets. Where the text just says 'inserted in brackets', etc., actual brackets rather than transcriber's note indicators are meant.

3.4 General layout

M   Modifiers should draw attention to the need to amend the front cover information and instructions of a paper. The producer can be expected to follow the established practice for this. For example, references to the number of print pages in the paper will be removed, and references to 'using your pen or pencil' will be dealt with. Also, instructions

regarding the candidate answering by marking boxes on special answering sheets will be routinely dealt with by the producer (e.g. see the section below on Answering Boxes and Multiple Choice Papers). However, any modification to the statement about the time allowance should be specified (e.g. duration 1hour 30 minutes plus your additional time allowance) as well as exceptional amendments needed to the instructions.

All new paragraphs should be indented to cell 3.

3.4.1   Preliminary headings

Preliminary headings should all be centred, however shown in print. This includes the reference number of the examination paper (e.g. 323/1) which may appear at the top or bottom of the first page or under some of the other headings in print, but which should always be brailled above the other headings on line 3.

All subsequent sheets should start with the page information line on line 1.

3.4.2   Instructions

All instructions should be brailled as paragraphs, however shown in print (short instructions such as 'Answer four questions' are often centred in print). Frequently instructions are italicised in print but this should not be copied in braille. Any words printed in bold type or otherwise obviously emphasised should, however, be brailled with the appropriate typeform indicator in braille.

3.4.3   Page information line

All pages should state the braille page number in the right-hand cells of the page information line (line 1). It may be advisable also

to give the following information on that line (centred) in order to aid collation: examination reference number, paper number or component code, Awarding Body (abbreviated), month/year of paper. The page information line should not be more than 30 cells long for a 40 cell line, 28 cells for a 38 cell line, etc.

3.4.4   Section headings, sub-headings, etc.

In general, section headings, sub-headings, etc., should be centred, however shown in print. Print use of capitals is followed. Print type style for such headings (such as bold or italics) should be ignored, unless used to distinguish the heading as a title of a book, etc. If a passage heading includes a letter or number indicating a division of a question, the letter or number can be centred with the heading, as in the print.

3.5   Question numbers

Main question numbers should normally begin in cell 3 and should be followed by a full stop even if there is none in print. Bold type or other special typographical features for question numbers should be ignored.

Sometimes the question number is followed by a passage heading on the same line in print. In this case braille the question number in cell 3 as usual and centre the heading on the line below.

Where a question continues over a page break, the question number (and part subdivision if any) should be repeated at the start of the new page.

3.6   Subdivisions of questions

In general, subdivisions of questions with letters or Roman numbers should start in cell 5 and further subdivisions of these in cell 7, with all runovers in cell 1. However, there are times when

this may not be convenient and an alternative method will have to be used. (See also the paragraph on section headings above.) Print use of capitals for question letters is followed; note that a capital question letter may require both a grade 1 indicator and a capital indicator.

3.7 Separation of items

For clarity it may sometimes be necessary to separate items by a dot 2s end marker (i.e. a centred line consisting of the line indicator, dot 5 dots 25, followed by a row of 10 dot 2 signs). For example, if a long passage, with or without line numbering, is followed by questions, a dot 2s end marker should be inserted between the end of the passage and the questions. It should not normally be necessary to use a dot 2s end marker before a centred heading.

For oral examinations, each passage after the first should always be brailled on a new sheet starting on line 2, after the normal page information line on line 1, with page numbering continuing. The previous passage should finish with a dot 2s end marker.

If the instructions at the beginning of a paper contain wording such as 'Do not turn over until you are told to do so', the instructions should terminate with a dot 2s end marker and a new sheet should be taken, beginning on line 2 as above. It may also be advisable to terminate a long set of instructions with a dot 2s end marker if the following questions are not clearly separated from them, e.g. by a centred heading.

If a very long passage is followed by questions on it, with references to particular words, lines or parts of the passage, again it may be helpful to begin the questions on a new sheet so that the candidate can refer back to the passage more quickly and easily.

However, this practice should not be followed in the case of a series of short passages where a lot of space would be wasted.

M   Where questions are especially long or complex, the modifier may request that they be separated by a full line dot 2s end marker (i.e. a line consisting of the line indicator, dot 5 dots 25, starting in cell 1, followed by a row of dot 2 signs to fill the rest of the line). However, if employed, this method should be used for all the questions in a paper, for consistency. The method will not be used by the producer unless explicitly stated by the modifier.

3.8   Page and other references

References to print page numbers should be altered to their braille equivalents. Sometimes words or phrases in a passage are underlined, capitalised or printed in bold type and then referred to as such in the questions. Braille should generally follow print in such cases.

3.9   Blank spaces to be filled in

If a blank space is left within a sentence, indicated by a low dash or line in print, to be filled in by the candidate, the low line sign (dots 46 36) spaced as a word should be used in braille. The low line sign can also be used if print just leaves a gap for answering. If there are several blank spaces to be filled in in a passage, these should be identified by a letter or number (which should be distinct from the question numbers) before the low line, to allow the candidate to identify his or her answers. The wording of the question may need to be modified accordingly.

When a number of lines are left blank after a question in print to accommodate the candidate's answer, it is helpful to add a transcriber's note in braille after each question, indicating the number of lines (e.g. [5 print lines] the first time it occurs and this can be shortened to [5 lines] etc. for subsequent occasions) so that the candidate can estimate the required length of the answer. (Note: in the above [..] indicates transcriber's note indicators, not square brackets, in braille.) The number of lines required comes before the number of marks.

3.10 Marks

Allocation of marks at the end of questions, however shown in print, should be brailled in square brackets with the word 'marks' after the number. This should normally follow immediately after the last word of the question or subdivision of the question to which it applies. However, where the question ends with a mathematical expression without following punctuation, the number of marks should be moved to cell 1 of the next line. (Refer to the above paragraph for the case where the number of lines has to be indicated.) If the number of marks applies to the whole of a question which has subdivisions, the marks should be brailled as a separate paragraph. No full stop is needed.

Bold type, italics or other special typographical features for marks should be ignored.

3.11 Sources of passages or extracts

Sources at the end of extracts should either be brailled directly at the end of the extract in brackets or after a dash, or else to end in the last cell of a new line. The print practice should be the guide. Source lines set out on a new line should be left-aligned. A source directly following on at the end of an indented passage (e.g. due to line numbering) should runover in cell 1 if necessary.

Print's use of capitals or italics, etc., for authors' names and titles of books, articles or journals should be followed.

M   Where several source passages are to be referred to in answering a question, the modifier should add suitable headings to identify them if they are not already identified in such a way.

Where specific types of source are identified by the presentation in print (e.g. speech bubbles, newspaper articles, etc.), the modifier should ensure that the type of source is identified in braille by inserting a suitable heading, if this is not already clear from the text of the question.

3.12 Line numbering

3.12.1 Prose passages

For prose passages where line numbering is used in print, the braille lines should be numbered on the same basis, e.g. if every fifth print line is numbered, every fifth braille line should be numbered. Braille line numbers should appear at the beginning of the line without a numeric indicator. On pages where none of the braille line numbers would exceed 2 digits, paragraphs should begin in cell 7 and runovers in cell 5. On pages where any of the braille line numbers would consist of 3 digits, all paragraphs should begin in cell 8 and runovers in cell 6, and so on.

If only the first 4 lines of a line numbered passage appear at the bottom of a page so that no line number actually occurs on that page, those lines should still be indented in the braille to give a consistent appearance with the rest of the passage.

This means that in any questions referring to specific print line numbers, the appropriate braille line numbers should be substituted; these alterations should also be marked on the print paper for reference.

If a prose passage has line numbering in the print which is not referred to in the questions, then it is generally best to omit this numbering in the braille as it could be misleading. (A note to the Awarding Body should be given in such cases to explain what has been done.)

If a question number is immediately followed by a passage with line numbering, the question number is placed in cell 3 (or cell 5, etc.) as usual, with the indented passage starting on a new line.

3.12.2 Verse passages

For these, the print line numbering should be retained and the layout will be in accordance with the usual line-by-line method. (In this method each new stanza normally begins in cell 3 of a new line, each following verse line begins in cell 1 of a new line, and all runovers begin in cell 5. However, for line numbered passages this format is indented as explained in the following.)

Line numbers will appear at the beginning of the line on which the print numbered line begins. On sheets where none of the line numbers would exceed 2 digits, new stanzas should begin in cell 7, each following verse line in cell 5 and all runovers in cell 9. On sheets where any of the line numbers would consist of 3 digits, stanzas should begin in cell 8, following verse lines in cell 6 and runovers in cell 10, and so on.

3.12.3 Play form

In play form, the speaker's name will begin in the appropriate cell for a new paragraph if the speech is in prose, or a new stanza if in verse.

3.12.4 A mixture of prose and verse in play form

If there is a mixture of prose and verse in a play extract, the print line numbering should be retained throughout. In this case, for a speech in prose, the line number should be at the beginning of the braille line which contains the beginning of the print numbered line. In the case where a verse line is divided between 2 or more speakers, the subsequent part or parts of the verse line should follow the new speaker's name after 3 intervening spaces.

3.13 Footnotes

Passages for comprehension, precis, translation, etc., occasionally have footnotes. For each note, print's reference mark (usually a superscript number, asterisk or dagger) should be included at the point of reference, following print's spacing. The notes themselves should be brailled as paragraphs at the end of the passage to which they apply, using the same reference mark at the beginning. Do not include a braille page and line reference. For reference marks which are superscript numbers use the superscript indicator at the point of reference, but not at the beginning of the text of the note at the end of the passage. Unnumbered asterisks or daggers do not require a superscript indicator in either case, even if appearing raised visually. Refer also to the section on Modern Foreign Languages as regards the treatment of vocabulary lists for passages.

3.14 Tables

The standard methods given in the references below should be used when transcribing tables. Capitals should normally be indicated, unless lack of space precludes this. In such cases the whole table can be brailled as if lower case, except where capitals are essential for comprehension. In the latter case, it is permissible to indicate capitals for those specific items only. If possible, tables should not be split between two braille sheets. If tables do need to be divided, or set out to be read across facing pages, an explanatory note to the braille reader will be required, enclosed in transcriber's note indicators. It should be noted in particular that dot 5 lead lines should be used to bridge horizontal gaps of 4 or more cells between entries across the rows of tabulated tables. A blank cell is left before and after the lead line, so that for a gap of 4 cells, the lead line consists of just two dot 5's. This is the minimum.

M If tabular information is to be searched through, the volume of information will often need to be reduced by the modifier. If the print table does not exceed one page then the reduced braille table should not usually exceed one braille page.

If a table has to be filled in, then in most cases it should be transcribed with the spaces labelled with lower case letters in round brackets. If bracketed lower case letters could be confused with the question numbers or other labels in the question, then some other labelling method should be adopted (e.g. bracketed numbers, Roman numerals, etc.). The wording of the question should be altered accordingly to indicate how the candidate should answer, e.g. 'Fill in the blanks in the table.' could be amended to 'Write down items (a) to (g) to complete the table.'.

M Unless stated otherwise by the modifier, this will be the normal technique used by the transcriber; the modifier should therefore be careful to make it clear if an alternative approach is to be adopted.

If the modifier requires a blank version of the table for the candidate to use for answering, the modifier should inform the producer, who will use the following standard method unless instructed otherwise.

If the modifier specifies that a loose copy of the table be provided, then the producer should use the following technique unless instructed otherwise: In addition to the table within the question with the spaces labelled, a loose copy of the table should also be provided with the spaces left blank so that candidates can fill them in. The blanks should not be marked by low line signs or dashes as is normally done in braille. Both tables should be double line spaced and follow the same general layout. In this case the wording of the question should be altered to allow either table to be used.

(References for the transcription of tables: For basic information see *Guiding Principles for the Presentation of Braille*, published by UKAAF. Full information is given in *Braillists' Manual*, section 62, published by RNIB.)

3.15 Diagrams

M Modifiers should note the guidance for the producer given below on diagram materials to be used. The modifier need only explicitly specify the diagram materials to be used if different from these standard instructions.

The modifier should be aware that there exist standard techniques for the presentation of simple 3-D diagrams in a 2-D format and the transcription into braille of flowcharts, family trees, simple organisation charts, electronic diagrams, computer documentation diagrams and chemical structure diagrams. (Most of these techniques are explained in the references given in this section.) The modifier should therefore try to avoid contradicting these when such techniques are required, unless there is a specific reason to do so. This will encourage common practice across subjects and between each Awarding Body.

Most candidates are likely to be more familiar with swell paper diagrams than collage and thermoformed ones. For this reason, modifiers should only recommend the use of thermoformed diagrams where there is a clear educational justification for doing so.

For a question which includes a diagram or graph, the modifier should decide what information the sighted candidate is expected to obtain from the print copy.

The modifier may recommend any of the following:

- The original diagram is retained, possibly supplemented by a written explanation (supplied by the modifier). In this case the diagram maker will then represent the entire diagram using the standard techniques outlined in this section. Note that producers will include diagrams unless told otherwise.

- The diagram is modified in some way to clarify its meaning in relation to the question, or to make it more accessible to the candidate. In some instances the diagram may have to be broken down into two or more

diagrams. All such changes to the original diagram not covered in this section must be specified by the modifier.

* A diagram or illustration is replaced by an accurate written description, which conveys all of the information required (the modifier must provide the wording). Extreme care must be taken not to lead the candidate towards the correct answer, nor to give to the candidate information which is not available to the sighted candidate.

* An unnecessary diagram or illustration is removed.

* If the diagram presents particular problems, the following could be considered:

    * the use of models, or

    * a replacement question.

Care should be taken that retention of a diagram does not require candidates to spend a disproportionately large amount of time interpreting the diagram to gain relatively few marks.

Where models are to be used, it must be clearly established who is to make them. In general, models should be made by the examination centres, and adequate time should be allowed for them to do so. Some awarding bodies choose to supply models themselves, as they can only provide limited information to the examination centre before the examination takes place, in order to maintain confidentiality.

The use of a replacement question should only be regarded as a last resort, and considered only in those cases where the same assessment objective can be met not necessarily by the use of a diagram.

Modifiers may recommend the inclusion of additional diagrams and may also indicate the necessity for candidates to have extra loose copies of any diagrams on which the candidate needs to work. It is the responsibility of the modifier to pass these instructions to the transcriber.

The modifier may find it useful to obtain the illustrator's brief from the Awarding Body when dealing with diagrams, e.g. to help with descriptions.

Unless otherwise indicated, diagrams should be included.

Diagrams should normally be made using the swell paper process from a prepared print master. However, the collage and thermoform method may be recommended by modifiers for complex diagrams where a wider range of textures are required than is possible to show clearly using swell paper, as well as for diagrams where drawing film copies are needed.

Diagrams should generally be enlarged but should not normally exceed A4 or B4 size for swell paper diagrams, or 11 x 11.5 in. for thermoform diagrams. Some graph/ transformation questions may need to be put on A3 swell paper to allow grid lines of the recommended 1.5 cm or 2 cm size.

Diagrams may be placed in a separate pamphlet, or tagged at the end of the examination paper so as to be easily detachable, or else inserted into the text to face the appropriate question. They should not be bound at the end of the question booklet. Graphs or diagrams on thermoform or drawing film which are to be used by the candidate and submitted as part of an answer should be loose or easily detached.

Diagram sheets are normally lettered a, b, etc., or numbered d1, d2, etc., rather than continuing the ordinary numbering. The method used will depend on the general method of producing the examination, as well as any specific instructions from the Awarding Body.

Diagrams must be headed at the top with any diagram title or figure number present. (These headings are placed beneath the page information line which includes the braille page number.)

If a diagram is separate from the question to which it belongs, the heading(s) should state the question number, e.g. 'Diagram for Question 6'. The text of the question will then require a reference to the diagram page when the diagram is referred to, e.g. '(see diagram sheet d1)', or even notice that there is a diagram present at all, e.g. 'Refer to diagram sheet d1.'. The exact wording will depend on the existing wording in the paper.

Diagrams should be structurally correct but simplified wherever possible by removing unnecessary detail and clarifying relevant parts.

3.15.1 Geometrical Figures

M   The number of lines involved in many problems will make the tactile diagram too cluttered and consequently unclear. Several different diagrams showing only the relevant lines could be produced but these might be claimed to aid the candidate unfairly by guiding them to the particular properties for use. The modifier's amended diagrams, therefore, need to be carefully designed to be clear but not, under any circumstances, to lead the candidate to the correct answer.

The amended diagrams should normally begin with the complete diagram and then proceed with diagrams showing

specific parts. The series of diagrams should be consistent in any labels used or introduced.

The modifier should specify that features of the diagram, e.g. equal length line markings and parallel line markings, should be stated in writing as well as on the diagram. This might mean that diagrams may need to be labelled where they are not labelled in the original.

Diagrams upon which measurements are to be made must be made accurately. Difficulties over the change of scale should have been resolved by the paper's modifier but the diagram producer should be aware of this issue in relation to the wording in the text, in case problems or inconsistencies emerge at this later stage.

M   The modifier should take special care with scale diagrams which cannot be enlarged without the scale factor being affected. It may be necessary to re-draw a scale diagram completely in order to create a scale of equivalent standard to the original. An alternative is to alter the relevant numerical values in the question or those required for the answer so that the enlarged scale diagram (using the original scale) gives the correct results.

Effective discrimination of lines requires 5 mm separation between lines.

There must be good contrast between textures when areas are filled in. A key must be provided if required, and placed, if possible, above or before the diagram or on the facing page.

Capitals should normally be indicated in labels, unless lack of space precludes this. In such circumstances labels can be brailled as if lower case, except where capitals are essential for comprehension. In the latter case, it is permissible to indicate capitals for those specific items only. For single capital letter labels, e.g. in mathematical or scientific diagrams, the grade 1 indicator which is used before the capital sign in the normal text should normally be omitted on the diagram if the letter is not adjacent to ordinary words.

Where there are names on maps and diagrams, the initial letter or letters of the name should be used as labels where space is limited, e.g. B for Bulgaria or S for stomach. The key should be arranged alphabetically. However, where the print already has a labelling key, the print abbreviations should be adhered to if possible.

Labels should be horizontal wherever possible. Labels can be placed on small blocks to make them easy to locate. However, blocks should not be used where they could be mistaken for elements of the diagram itself (e.g. in certain mathematical diagrams). Label lines should be straight and of a distinct and easily identified texture. This texture should be included in the key. Arrow heads, if used, should be of 'open' type.

A label such as 'not drawn to scale' should be placed at the top left of a diagram so that it is not missed.

In general, graphs should show major grid lines, whether or not these appear on the original print version. (Grid spacing of 1.5 to 2 cm is generally appropriate.)

M   It may be necessary for the modifier to alter the scale on the axes, or the data in a given table, to facilitate this.

Different areas of a map or diagram (such as land and sea or muscle and bone) should normally be distinguished by judicious use of different levels or textures, not simply by an outline.

M 3-D Diagrams

3-D diagrams should not be reproduced as in print: the modifier may recommend that they be replaced by a model or be resolved into one or more 2-D diagrams.

3-D Problems

For some three-dimensional questions the modifier may recommend that models be produced for tactile inspection. The specification of such models should be given by the modifier to the Awarding Body who will instruct the examination centre accordingly. Models will not normally be provided by the transcription agencies.

Plan and elevation drawings, or diagrams of particular faces, should be provided if they will serve to clarify details of the model.

Area and Volume Problems

For area and volume problems a worded description may be used by the modifier to supplement, or in some cases to replace, a diagram.

Flow Diagrams

Where candidates are required to complete a flow diagram, the modifier should normally instruct the transcriber to label the blank spaces so that the candidate can answer on a separate sheet. The wording of the question may need to be altered accordingly.

In some cases a description of the position of boxes may be necessary - this should be specified by the modifier.

If sandpaper, metal wire etc., are used in the composition of a collage diagram, the sheet should be thermoformed before being included in the finished paper, as these textures can be very damaging to the sensitivity of touch of readers.

It is especially important that examination producers have a demonstrated ability in producing diagram material to the required standard.

3.16 Drawing and measuring

M   Questions involving drawing should generally be amended.

Where candidates are asked to draw an object, such as a piece of scientific apparatus, the wording should normally be amended to allow the candidate either to describe the object in words or to draw it using the techniques given below, as long as drawing is not itself part of the assessment criteria.

If candidates are expected to draw geometrical diagrams then they should usually be given the option of either drawing on drawing film or creating the diagram on a graph board for transcription into print. (Since it may be most appropriate for a particular question to stipulate the desired method, candidates should be familiar with both techniques.) If the option applies generally throughout the paper, this fact can be explained in a note at the start of the paper, so that the print's wording within questions with regard to drawing need not be altered. The question may need to be amended so that the bulk of the diagram is already drawn and the

candidate then only has a small amount of drawing to perform.

Alternatively, the question may be reversed so that the diagram is given but a similar mathematical area is being tested. The acceptability of this course of action will depend on what skill is being assessed.

Modified questions involving measuring should be tested for their feasibility by using the instruments that the candidates will have available to use. For example, where a tactile protractor is to be used in a diagram where lines are forming an angle, the lines will need to be a minimum of 9cm in length.

Simple geometrical constructions can be dealt with, but the limited accuracy achievable and the inability to draw feint construction lines severely restricts the type of questions that are feasible for a candidate to attempt in an examination.

Where the degree of accuracy expected of sighted candidates is plus or minus 0.1 cm (or 2 degrees) then the degree of accuracy expected of candidates with a visual impairment should normally not be greater than plus or minus 0.5 cm (or 5 degrees) as long as this is consistent with the assessment objectives of the exam concerned.

Where candidates are required to complete or draw a pie-chart, the modifier should ask that a pie-chart template be provided on drawing film. The template should consist of a circle marked with a very large centre point. There should be 10 degree markings cutting the circumference. 90 degree markings may be slightly longer. A vertical starting line (from the centre up to 0 degrees) should be drawn.

If the candidate is expected to draw on a drawing film diagram, an additional separate tactile copy of the diagram should also be provided. The producer should do this unless instructed otherwise by the modifier.

3.17 Answering boxes and multiple choice questions

Boxes to be filled in should not be reproduced in braille, and any references to them, such as 'in the spaces above' should be altered to 'in the spaces provided', or deleted. An instruction saying, for example, that 'answers should be inserted in the boxes on the answer sheet', might be amended to say that 'answers should be written on your answer sheet'.

Charts or special sheets for answering should not be reproduced, but have a look through them as they may provide extra information for the candidate, e.g. 'answer in centimetres'. In that case, instructions like this should be given in square brackets after the question.

Instructions about the method of answering multiple choice questions usually have to be amended, depending on how the candidate is answering. For example, the amended instruction might simply say that candidates should write down the letter of the correct answer. Where choice of a combination answer is required, it is helpful in long multiple choice papers to repeat the instructions on a separate sheet – this sheet should be inserted at the end of the braille paper and be clearly marked for the particular section.

3.18 Papers with questions in common

Where different papers have questions in common, e.g. papers for different tiers in a subject, it may be advantageous to braille the parts in common only once to save brailling and proof-reading time. Care should then be taken when combining such text into the

finished papers to make sure that page breaks and page references etc. are correct in each case.

3.19 Print conventions that can be ignored in braille

Several print conventions can be ignored in braille: in particular, instructions at the foot of the page such as 'Turn over'; repetition of the examination number at the top or foot of a new page; printer's reference marks; and repetition of a table or other information on a new sheet, such as an instruction which is an exact repetition of the one on the previous page referring to the same part of the paper, e.g. 'Answer four questions'.

3.20 Contents pages

For very long papers where a candidate is required to answer questions on selected books or topics it may be beneficial to add a braille contents page. This should be added at the end of the paper, and a note in square brackets informing the candidate of its existence should be inserted at the beginning of the instructions on page 1.

This will read: [A contents page for this examination paper will be found at the end of the paper. This is to assist the candidate in locating selected books (topics etc.)].

Where a contents table is already present in the print, it can be transcribed in the same position in braille as it occurs in print.

3.21 Manual transcriptions

If it is necessary to make any erasures, then these corrections should be checked by a touch proof-reader who must ensure that they will not be discernible by the candidate. Extra blank spaces should not be regarded as acceptable.

3.22 Print versions of braille papers

It is a requirement that a print version of each braille paper be produced, to assist readers, scribes and invigilators. This should be textually accurate, following the braille script, including all the amendments. It should be clearly headed to indicate that it is the print version of the braille paper. Paragraphs can flow naturally, i.e. it is not necessary to show braille line breaks within paragraphs. Braille page turns should, however, be indicated. Print versions of any tactile diagrams should be included, using the layout etc. of the tactile diagram, but with print labels. The font size should be a minimum of 12pt, but there are no other special requirements on format, e.g. heading style, etc.; the main criterion being the accuracy of the text.

3.23 Modifying webpages as source material

M Deciding how to modify webpages can present particular challenges to a modifier. A typical example is where candidates are asked to comment on the impact/use of colour and design in a webpage, which is impossible for a blind candidate to do independently. The modifier's role in making this task accessible depends on the assessment objectives being tested. Assuming that it is reasonable to modify the webpage there are two further dangers:

- Providing a text description of a visual on a webpage could give the candidate too much help in answering a question

- It could be difficult to write a text description of all the information on a webpage clearly and concisely, which may lead to the candidate missing or misinterpreting a vital piece of information.

In order to avoid these dangers, modifiers should ask the following questions:

1   Is there anything on the webpage which can be omitted from the transcript? (e.g.: logos, text box with 'popular searches'; links to social networks, Twitter etc.)

2   In what order should the information on the webpage be presented in the transcript? (this should attempt to follow the same order in which a sighted reader would scan through the information shown)

3   Are there any visuals? Assess their importance in relation to the task.

    • Is their location on the webpage important?

    • Is their content important for any reason? (i.e.: to catch reader's attention, to accompany the mood of a text, for humour)

    • Is colour being used in the visuals for any special purpose?

4   Are there any other webpage features which are important in carrying out the task? (e.g.: banner advertising, menus, links)

The modifier should next write a general description of the webpage. For example:

Text J is a webpage which shows the home page of the Guardian newspaper.

• There is a navigation menu across the top of the webpage with menu buttons for sections of the website, and a second line with menu buttons for types of News.

- The first column on the left lists the three main news stories of the day.

- The second column in the centre includes one large picture and one small picture illustrating other interesting news stories.

- The third column on the right has links to two other popular sections of the website.

The modifier should write a transcript of the webpage, following these important principles:

- When referring to features on the page, use appropriate terms, for example:

  - Text Box

  - Drop down menu

  - Links

  - (Link) buttons

  - Navigation menu

  - Banner

  - Check boxes

  - Radio buttons

Blind candidates should be familiar with these terms.

- When producing a transcript, signal webpage features by indicating the type of feature in brackets first.

Here is the transcript for the same webpage as the general description above:

Heading: guardian.co.uk

Navigation menus (buttons):

[List 1: sections of the website] News, Sport, Culture, Business, Money

[List 2: types of news] Media, Education, Society, Science, Tech, Law, Football

News stories:

[Heading]: Linda Norgrove's parents refuse to blame US forces

[Text] US given credit for admitting aid worker was probably killed by grenade thrown during rescue

[Button for video]:

'Our worst nightmare was of her being kidnapped'

[Heading] US economy shows 2% growth

[Text] Economy grew faster in third quarter, but Federal Reserve expected to pump in more money next week

[Link to 4 comments]

1. British Airways back in the black

2. British Airways chief blasts air duty increase

3. Boardroom pay soars 55% in a year

4. WPP reports highest growth rate since 2000

Pictures:

(1) Title: Hallowe'en hauntings.

[Text] Ghostly visions caught on film

[Picture] Two men looking at a ghostly shape in front of them.

(2) Title: Rooney out of Manchester derby

[Text] Sir Alex Ferguson has admitted that Wayne Rooney's ankle injury may keep him out of action for longer than three weeks

[Picture] Footballer Wayne Rooney on a football pitch.

Popular features:

[Heading] guardianjobs

[Link buttons to four options]

1. Browse all jobs

2. Upload your CV

3. Get jobs by email

4. Join our career forums

[Heading] Online dating

[Text] Find your soulmate with the Guardian's dating site.

[Link] Join Guardian Soulmates

Subject Specific Guidelines

3.24 English

M   Illustrative material - photographs, drawings, cartoons, maps, etc. - should be accessed by means of descriptions, worded simply and clearly, but in language which could not be seen as over-advantaging candidates. The extent of a description,

and the nature of its content, should match the requirements of questions; for example, tasks on media or non-fiction texts often require comment on layout and/or the means used by writers to persuade a reader towards a particular point of view, or at least to engage the reader's interest. Thus, for such materials, not only the pictorial content, but also its colour, size and position in relation to text should be part of the description, together with font, size and density of print for headlines and side headings where this is relevant to the task. However, whilst descriptions should facilitate parity of access to questions and materials, they should not be so long as to take up an unrealistic amount of time and concentration from the candidate.

Questions involving completion of tables/grids should normally be reworded to enable the candidate to provide the necessary information using a simple device such as list form. (This differs from the standard transcription method explained in the section on tables, so the modifier should ensure that it is clear that a different approach is required.).

For reading comprehension tests where the passages are on average longer than about 20 print lines the modifier should request that the questions and passages be placed in separate booklets. Where the passages include texts with gaps and set words or phrases to be inserted, the modifier should normally specify that the passage be placed in the question booklet, and the set words or phrases be placed in the passages booklet.

In questions where the candidate has to modify a given word and insert it into a gapped text, if the given words are printed at the end of each line, they should normally be bracketed and the rubric

amended appropriately, e.g. to refer to 'the word given in brackets at the end of each line'.

For error correction tasks where the candidate has to identify correct lines in a passage, if the print instructions say that a tick should be used, this can be changed to a cross (i.e. a letter x) in braille. Numbers at the beginning of each line in the passage should be enclosed in brackets, and the passage set out line for line in braille, so that each print line is clearly identified.

3.25 Geography

M   **1. OS Mapping**

It is undesirable for students with a visual impairment to have to tackle Ordnance Survey maps and their associated skills in the original format provided by Ordnance Survey. Some Examining Bodies already offer alternative questions as a matter of policy. The modifier should consider whether more appropriate ways can be used to assess the individual skills:

- 4 and 6 digit grid reference.

- Contour lines; to give an indication of steepness of slope.

- Measuring straight and curved line distances.

- Use of compass points.

- Appreciation of relief, so that the student can identify simple topographies, illustrating with a written response rather than with a drawing - e.g. a hill, a valley, a plateau. (Cross sections present major practical difficulties disproportionate to the number of marks allocated.)

- Identifying various types of land use in urban and rural areas.

- Elementary route finding (networking). These skills would need to be tested separately on individual diagrams.

- Identifying map symbols to show understanding of the key.

If there is no alternative to using an OS extract the following guidelines apply.

- Provide a modified version of the original extract for orientation.

- Provide individual modified enlargements of specific parts of the original extract, depending on the questions.

- If the question requires the use of scale, a new linear scale should be displayed on the same page as the extract.

2. Graphical Data

Although it may be necessary to split groups of diagrams over several pages, the modifier should be aware that doing so may increase the scanning difficulties for the readers, and the ability of students to perceive relationships.

3. Landsat photos

These are inappropriate for students with a visual impairment, and questions involving them will need modification or replacement.

3.26 History

M   History papers require modification due to the use of a variety of pictorial or diagrammatic sources to provide stimuli

or evidence for evaluation. There are a number of ways of dealing with this: the nature of the historical skills tested in the questions should be the guide to how the modifier alters the source. Generally for both modified large print and braille, it is better not to use any pictures, maps or diagrams as these are not integral to the subject.

There are a number of ways of modifying:

- Where a diagram or photograph is used solely to provide a stimulus, a description may be appropriate. On many occasions this may require just a slight modification of the written description already present. On occasions, a more appropriate description may be found by using an extract from a newspaper of the time. Where a map is used, it is generally included as a means of providing information. Reading a map is a very difficult skill for students with a visual impairment. It is therefore usually more appropriate to provide a written description or a timechart. Enough information must be provided so that candidates are not disadvantaged, but equally, selection must not provide extra guidance. Descriptions should generally aim to be no more than eight lines. It is important that, despite the additional time allowance, candidates with a visual impairment do not find themselves over-burdened by a lengthy written paper.

- Graphs are better changed into tabular form. It may be appropriate to reduce the amount of information given (e.g. by giving figures for every 10 years instead of 5). Also, it may be necessary to divide information into two tables.

- The biggest challenge is presented by visual sources where the candidate has to evaluate the validity of the

source. The type of source is an integral part of the question, but a description will provide a judgement on the source, negating the purpose of the question. If the emphasis of a cartoon or picture is on the wording (e.g. slogans on banners), it may be possible to use a description, but it could be better to consult the awarding body about replacing the source. Candidates should still be able to fulfil the purpose of the question by demonstrating the ability to use a range of sources, but can use some kind of written source: a poem, song, newspaper account, speech, etc. The information given would be as close to the original as possible, with only an alteration needed in the source described in the wording of the question ('How useful is the cartoon/picture etc.?'). The aim should always be that the marker could use the same general mark scheme. Only in the last resort should it be necessary to change the question, but even then it should tackle the same skills. This can be a challenge to the ingenuity of the modifier, but the result is far more true to the nature of the subject.

The information about the origin of sources is obviously vital, and can be fairly lengthy. This may mean that it is better to place such information in brackets at the end of the source.

3.27 ICT and text processing

It is especially important that braille examination producers have a demonstrated ability in transcribing such material to the required standard.

M The modifier must identify the questions where it is important to provide layout and presentation information beyond the standard methods used by the transcriber set out below. There are four suggested techniques. Modifiers should choose the most appropriate way:

- Diagram with key. Use texture rather than outlines where use of 'white space' may need to be identified.

- Summary description at beginning. Alternative vocabulary or modification of the question would be required if words such as 'logo', 'bold' are the required answers.

- Use of explanatory notes within the document. These should generally be inserted in transcriber's note indicators.

- Remove content not relevant to the question and replace with a description. e.g. [Text about boat trip] [Table of 2 columns and 5 rows showing route and distances]. (Note: In the preceding, […] are braille transcriber's note indicators.)

Where the examination paper includes material which has been previously released to the candidate for working on in class, the modifier should instruct the producer to place it in a separate clearly labelled pamphlet. The modifier should specify an appropriate label, and ensure that any other necessary modifications are made to the candidate's instructions.

The following techniques apply to the transcription of passages and layouts which are to be copied or examined.

3.27.1 Capitals

Particular attention should be given to the indication of capitals for all material that is to be typed or where the use of capitals is being tested, or where candidates are asked to comment on the layout, style or presentation. Where capital letters have purposely been left as lower case, this must be retained in the transcription.

Spaced block capitals have no specific indication in braille, and so may be more conveniently explained in a transcriber's note, rather than just brailled explicitly as spaced letters. An alternative is to use a transcriber-defined typeform indicator, which would need to be explained in a transcriber's note.

3.27.2 Bold and underlining

Bold or underlining in a document should be indicated as such using the relevant typeform indicators.

3.27.3 Layout

Print layout should be followed in letters, passages, addresses, etc., which are to be copied or examined, and print inclusion or omission of punctuation should be strictly followed. Paragraphs should start full out (cell 1) with blank lines between, if that is the style of the print. If a whole paragraph is indented in relation to the other paragraphs, the same should be done in braille. Where material has been right justified and could be easily missed, it may be useful to insert a transcriber's note to warn the reader.

3.27.4 Blank lines

Blank lines are to be reproduced as in the print. However, if more than two blank lines are left in print, insert a transcriber's note such as [4 blank lines], rather than leaving the same number of blank lines in the braille. Where a blank area is left for completion, for

example for the main text of a memo or fax, this must be clearly explained in a transcriber's note.

3.27.5 Names and Addresses

In lists of names and addresses for inclusion in dictated passages, all lines will normally be brailled full out, leaving one blank line after each item, as in print. Where a lot of space is left between two elements of an address on the same line (e.g. 'London   W14'), two spaces should be left in braille.

3.27.6 Print symbols

Where print symbols have a braille equivalent then that braille sign should be used. In particular, the ampersand & is brailled dot 4 dots 1-2-3-4-6, and the at symbol @ is brailled dot 4 dot 1. Other special characters which do not have a direct representation in UEB should be replaced by a name or explanation in transcriber's note indicators.

3.27.7 Spellings

Where there is a list of spellings to note, it should be brailled in Grade 1. The same applies to a list of abbreviations and what they stand for. Where incorrect spellings or punctuation have been used in the document, these must be retained in the transcription.

3.27.8 Tabulated words

Grade 1 should be used to make it easier for the candidate to find the longest word and tabulate correctly.

3.27.9 Tabulated numbers

These should be aligned as in print, i.e. with units under units, etc., if set out in that way in the print (not left justified as is normally done in braille).

3.27.10 Numbers of more than 4 figures

It is now generally print convention to group the figures in threes, separated by a single space. In UEB this numeric space is represented by a dot 5 before the following digit. If the numbers are intentionally wrongly grouped, then this error should be retained in the transcription.

3.27.11 Forms

It is generally not possible to reproduce forms with the layout as given in the print. Instead, unless the modifier has indicated otherwise, the information has to be conveyed in paragraph form, with punctuation inserted where necessary to separate items, blank spaces to be filled in indicated by low line (underscore) signs, and the number of blank lines for entries to be made explained in a transcriber's note. A transcriber's note (in transcriber's note indicators) such as the following will normally be required before the form to explain the method.

> [The following gives the wording on the form which appears in print, with the blank spaces, or number of lines for entries to be made indicated. The exact layout has not been reproduced in braille, although all the information has been included.]

(The exact form of the above wording will depend on the particular context.)

M   The modifier should indicate if the layout of boxes for entering data on a form should be explained in more detail. In this case the producer will follow the following methods unless the modifier specifies otherwise.

Where the modifier indicates that the layout of boxes for entering data on a form is important, the number and spacing of those boxes should be described in a transcriber's note, e.g. 'Postcode [4 boxes followed by a space then 4 boxes]'. An alternative is to devise a method to indicate boxes, e.g. using a full cell, in which case a transcriber's note will be needed to explain this.

M   If the general layout and presentation of a form is being examined, then, where possible, the modifier should instruct the producer that the form should be reproduced with the layout as close as possible to the print, with any significant differences from the print explained in a transcriber's note. If this is not practical, then the modifier should specify an alternative method, for example that a diagram be used with a key to the different elements in the form. The latter technique might also be employed with complex tables where they cannot be represented in the normal way.

3.27.12 Handwritten corrections to the text

These generally appear in the margin in print but have to be inserted after the passage to be typed in braille, in square brackets. It will be necessary to explain some of the standard correction markings in words. Where a badly handwritten word or phrase is explained in block capitals, this can be ignored and the word brailled correctly. Strike-outs with dotted underlines beneath and 'stet' in the margin can also be ignored: the original word should be left in braille.

The corrections should be separated from the passage by a blank line and then be given in the following form.

[1st para, 2nd sentence: the 'p' of passage is to be upper case.]

[2nd para, 4th sentence: insert a comma after 'therefore'.]

3.27.13 Explanatory notes

All explanatory notes from the braillist/editor to the candidate should be placed in transcriber's note indicators and inserted where most convenient.

3.28 Mathematics, science and computing

Braille coding for these subjects is covered in the standard UEB manual, *The Rules of Unified English Braille* (ICEB), and in the other basic reference, *Unified English Braille - Guidelines for Technical Material* (ICEB) (here referred to as GTM) which provides specific information for these subjects. RNIB guides to Using UEB for Maths and Using UEB for Science are also available. Special attention should also be given to *Additional Guidance on UEB Mathematics* produced by UKAAF, which provides extra guidance for the UK. The specific guidance given in the last document, e.g. on layout, choice of grade 1 indicators, etc., should be followed for all mathematics exam paper transcriptions, as well as for maths expressions in science and computing papers.

Careful judgement may be required for braille transcription in these subjects, e.g. in the application of the code and the method of layout etc., especially for the more advanced papers, to ensure that the text is transcribed consistently and faithfully to the meaning, as well as neatly. It is especially important, therefore, that braille examination producers have a demonstrated ability in transcribing such material to the required standard.

NB Translation software used for these subjects should be used with appropriate care, as it cannot be guaranteed to produce correct results.

A blank term in an equation should generally be shown using the methods given in GTM 3.6.

Where a specific number of blank digits are indicated in the original (e.g. with hyphens or dots), they should generally be shown in braille in a similar way. If dots are used for this purpose mixed with actual digits, then the appropriate number of stop signs (dots 256) should be used together with the digits after the numeric indicator.

M   The modifier should indicate if an alternative to the above standard techniques for dealing with blanks should be used.

Data sheets should be provided as separate booklets.

The periodic table, if required, should be provided in a separate booklet.

M   The modifier should ensure that standard alphabetical element lists are presented in addition to the table itself.

M   **Co-ordinates**

Questions involving co-ordinates must be worked through by the modifier on a tactile graph board to ensure that the question is feasible. The question may need to be re-structured so that part of the diagram can be dismantled when it has been finished with, thus creating a clearer tactile diagram.

Transformation questions may need fractional co-ordinates changed to integer values. In particular, if the identification of a centre of rotation or enlargement is required, it should have integer co-ordinates. For transformation questions it can also be helpful for a cut-out shape to be supplied to the candidate. The modifier should initiate arrangements for this where needed. It may be preferable in transformation questions to give the image as well as the object on the diagram and for the candidates to be asked to describe fully the transformation shown. (A reversal of the question which avoids drawing problems.) However, when this is done the modifier should check that the resulting question is not more difficult than the original one. In general, a 2 cm grid should be used and the maximum size grid will usually be 10 squares by 10 squares.

If the elements of coordinates or sets are listed in brackets without a space following the comma, then a space should be inserted after the comma by the modifier. For example, print coordinates can be written as (4,5) or (4, 5) the latter should be used in Braille papers.

Loci

Simple loci problems involving the drawing of straight lines can be satisfactorily answered using the drawing techniques detailed in the section on drawing and measuring above. A diagram that provides an initial framework should be given. More complicated problems should either be amended to say 'describe', or else a set of multiple choice diagrams should be provided.

Set Theory

Where questions require candidates to fill in missing information on Venn diagrams, the modifier may instruct that these diagrams be supplied on loose sheets and should be of sufficient size for the answer to be added. Drawing film should be used when the area needs to be shaded. Another option for completing Venn diagrams is to present candidates with the sections labelled and ask them to create lists on their answer sheet under each heading.

Science

Where, in the original paper, candidates are expected to insert numbers in order to complete or to balance a chemical equation, candidates should be instructed to re-write the equation in full.

(References: *Unified English Braille - Guidelines for Technical Material* (ICEB), *Additional Guidance on UEB Mathematics* (UKAAF).

3.29 Modern foreign languages

Braille coding for these subjects is covered in the standard UEB manual, *The Rules of Unified English Braille* (ICEB). Special attention should also be given to *Transcribing Foreign Language Material in UEB* produced by UKAAF, which provides extra guidance for the UK. The specific guidance given in the last document, i.e. on the choice of transcription method to be used, should be followed for all foreign language exam paper transcriptions. It is especially important that braille examination producers have a demonstrated ability in transcribing such material to the required standard.

As explained in the UK document cited above, in the transcription method to be used in foreign language examination papers (called **Method 2**), the braille signs for accented letters from the specific foreign language code are used as needed in foreign text, though all other signs (e.g. punctuation, etc.) are in UEB. Neither foreign contractions nor UEB contractions are used in foreign words, though UEB contractions are used in surrounding English words. Lists of foreign language code accented letters are provided at the end of the UK document.

In foreign language papers, Method 2 should be used for passages in the foreign language and for sources at the end of such passages. Method 2 should also be used for any headings in that language and for any words, phrases or sentences in that language which occur in an English context but which are in quotes or italics. For any foreign names, words or phrases in English context which are not in quotes or italics (or otherwise distinguished) and may therefore be considered as anglicised, standard UEB and accent signs should be used. English contractions may be used in such words with care (if in doubt, do not contract). For reading passages in foreign languages there should be no half-spacing (in manual transcriptions) and only easily recognisable word divisions.

If a vocabulary list is given for a passage, the words should instead be inserted directly into the text at the relevant points, enclosed in square brackets, unless specified otherwise by the modifier.

M   Speaking

Where there are illustrations in the paper, the modifier should request a copy of the illustrator's original brief from the Awarding Body, in order to be clear as to the original purpose and required content.

Use English descriptions (in brackets) for any visual clues, and when stating the target language.

Reading

Reading passages which are longer than about 100 words should normally be placed in a separate booklet so that the candidate can easily refer to both the passage and the accompanying questions. The modifier should indicate any such cases for the producer. Shorter passages in the same paper should remain in the question booklet.

In special cases, and with prior approval from the Awarding Body, the modifier may specify a different technique in which a long passage remains in the question booklet, and is divided into suitable sections, with the questions inserted before their corresponding sections. (It is the responsibility of the modifier to specify both the moving of questions and the splitting of passages for the braille producer.) Where necessary, the modifier should make appropriate amendments to the candidate's instructions when the material has been rearranged in this way.

Listening

Modifiers must obtain a transcript of the tape in order to know what is being tested.

Writing

The above points are applied where applicable.

General

Maps, photos, cartoons, pictures, etc., which contain visual clues, should be replaced by short descriptions.

Examination rubrics in the target language will need to be amended by the modifier to take account of the different methods of working of candidates with a visual impairment. For example, 'cochez la bonne case' ('tick the correct box') would become 'écrivez la bonne lettre' ('write the correct letter').

3.30 Music

Braille music should be produced in accordance with *New International Manual of Braille Music Notation,* issued by the Braille Music Subcommittee of the World Blind Union. All stave notation in the original paper should be presented as braille music in the modified version, using for example stem signs for stave notation involving unpitched notes.

UKAAF Music Subject Area are in the process of producing guidance on the interface between UEB and braille music codes.

M **Presentation of Multiple Staves in Braille**

The modifier must carefully consider what is required from the question. The choices include:

- Bar over bar (as in print)

- Transcribing parts individually. (This offers no unfair advantage for the braille user, as usually only one part can be followed at a time.)

- Providing two different layouts

Supplementary Music Texts (Excerpts)

The modifier should instruct the producer that these be produced in a separate booklet, depending on what is required from the question.

Where a question in print refers to a few bars from a score taken into the examination, it is advisable to include these bars in the question, for ease of access. The modifier should instruct the producer to do this, making it clear what excerpt is required, including edition details where appropriate.

Consistency

Consistency from year to year is of particular importance, especially regarding the use of past papers for practice. When there is a change of modifier, the new modifier must base his or her modifications on previous practice.

Each question should normally start on a new page, and, as far as possible, individual part questions should not be split over braille pages. Other page splits should be planned with care. For essay-type papers, main questions should instead be separated by a blank line rather than each specially starting a new page, but part questions should still not be split over pages.

3.30.1 Scores

Capitals should normally be indicated in scores matching the print.

In score extracts each bar should be numbered. In questions which require following a braille music score whilst the music is played, very limited use of braille repeat conventions (part bar repeats, bar repeats and section repeats) should be made.

The signs which are used as references to mark cadences, chords etc. in a score, corresponding to rubric around the print score, should be provided as a key before score extracts. If not given in the original, the questions should include bar numbers wherever possible.

Where a full print score is given separately as individual parts, this must be explained in the braille. Likewise any layout issues specific to the braille, e.g. the placing of chord symbols, should be explained.

Where blanks in the score indicate the part that needs to be completed by the candidate, the transcriber should insert 'braille-only' rests in the braille, along with the following note: 'Rests preceded by dot 5 indicate that the part is incomplete rather than silent'.

Where an unpitched rhythm is given in print (often to which the candidate must assign pitches), the braille score can use stem signs of appropriate duration, along with the following note: 'Stem signs are used where rhythms are given as unpitched stems above the stave'.

It is necessary to explain for each musical extract which includes chords where intervals read up and where intervals read down.

3.31 Religious education

M   The use of maps, charts, graphs and tables is unlikely, and the main forms of visual information that require modification are photographs, drawings and diagrams. In a modified large print paper, it may be possible, and desirable, to produce a simplified diagram where key features have to be identified. For the braille, it is usually better to describe the various features without giving the student an unfair advantage.

Some particular issues that arise when giving written descriptions of pictures and photographs used in RE papers are listed below.

- Unlike in many other subjects, the objects depicted in photographs and diagrams in RE papers are often not everyday objects but ones only encountered in a religious context. A Christian font, a Jewish scroll case or a Buddhist prayer wheel for instance are difficult to describe in general terms. Certain objects may have an immediate visual resonance for sighted students, and, whilst it may be inappropriate to give students with visual impairments an advantage by naming the object, it is important that the description is clear and unambiguous enough not to put them at a disadvantage.

- It may be best to avoid certain descriptive terms which have a link, though not an exclusive link, with a particular religion. For instance the word 'turban' has a particular link with Sikhism, but not an exclusive one. If such words are used it will be necessary to ensure that enough context is given to ensure that the student is not misled.

- It will be necessary at times to refer to the race of a crowd or of an individual pictured. Such information is instantly available to students with sight and may be of relevance in the context of RE.

- Awarding Bodies (and most modern text books) will use standardized spellings of religious words that have often been translated from other languages. These standardized spellings are included in the 'Religious Education Glossary of Terms' published by SCA. If any such terms need to be used in modification they should be spelt as they are in the glossary.

- The origin of visual information is sometimes given in the ordinary print and, if relevant or necessary to answering the question fully, such information should be placed in brackets at the end of any related description.

Only as a last resort should it be necessary to change the question, but even then it should tackle the same skills that the original question does, and should maintain the same mark scheme.

3.32 Technology

M   3-D diagrams should not be reproduced as in print. The modifier should recommend the use of a model. An actual example of the item in question may be the best solution.

4   Section C - Large Print Papers

This section relates both to modification and transcription. The main text sets out the standard method for the transcription agency to follow. Specific points in relation to this for the modifier's action are in blocks marked M, supplementing the general statement of modifiers' responsibilities given in Section A.

4.1   Types of large print papers

Large print examination papers are to be made available in a variety of formats according to the needs of the candidates. The format will be one of the following.

M Awarding Bodies offer a range of standard formats which exam centres may choose from. Centres with candidates who are unable to read standard size modified enlarged papers, i.e. A4 modified enlarged 18 point bold papers or A3 24 point bold modified enlarged papers may wish to contact the Modified Papers Unit of the relevant awarding body for further advice and guidance.

4.1.1 Unmodified enlarged papers (UE)

The normal paper directly enlarged by photocopying, A4 to A3.

The following shows the typical print size which would be achieved when enlarging from A4 to A3. The actual line width will be greater:

At first sight there does not seem to be much connection between Potatoes and Tomatoes, and yet they are closely related, and bear the same botanical name of *Solanum.*

4.1.2 Modified large print papers (MLP)

5 A modified paper (i.e. visually simplified) produced in large print on A4. The typeface is Arial 18 pt bold, with at least 4 pt leading (i.e. 18 on 22 pt).

The following is a sample of 18 pt bold on 22 pt:

At first sight there does not seem to be much connection between Potatoes and Tomatoes, and yet they are closely related, and bear the same botanical name of SOLANUM.

It should be noted that the text of this version may differ from the text of a braille version of the paper. If a centre anticipates that there may be a problem with this (e.g. in case a candidate is to refer to both versions), the centre should contact the Awarding Body for advice.

6 From a large print paper in format 3, an enlargement, A4 to A3, will be available on request, to meet the needs of candidates for whom the 18 pt print is too small. The following is a sample of 18 pt bold enlarged as from A4 to A3. The actual line width will be greater:

At first sight there does not seem to be much connection between Potatoes and Tomatoes, and yet they are closely related, and bear the same botanical name of SOLANUM.

M Papers of all types are normally printed double-sided. However, the modifier may request that the paper be produced single-sided, for example, if it is to be coloured or if the candidate has to draw on it: in this case the modifier should instruct the producer accordingly. This practice has the disadvantage, however, that the amount of text visible at one time is halved.

4.2 Unmodified enlarged papers (UE)

Unmodified enlarged papers are normally produced at the centres.

The enlarged paper is produced by directly enlarging the original paper from A4 to A3; for example, by photocopying. Papers should normally be printed double-sided, and bound in a suitable way which allows the paper to open flat (e.g. tagging). Text in particularly small type, e.g. extracts of newsprint, train timetables, etc., may need to be further enlarged so that a minimum of 14 pt type size is achieved. The paper used should be non-glossy and of a sufficient weight (minimum 100 gsm) to avoid any 'show through'. Care should be taken where there are diagrams involving shading to ensure that the shading reproduces adequately - it may be necessary to set the copier to photo mode or similar to achieve the required result.

Special provisions may be required where there are scale diagrams upon which measurements are to be made. One option is to provide large scale rulers, which should be provided by the centres. Alternatively it may be practical to reproduce the diagram without enlargement.

4.3 Modified large print papers (MLP)

M   It is the modifier's responsibility to retain as much as possible of a paper (including visual stimuli) in its original or modified form. The complete removal of visual material should only be contemplated when such material does not, in the modifier's opinion, constitute an integral part of the purpose of the question.

The basic order of the print original should be followed wherever possible.

Where the original stimulus material is in colour, the modifier should recommend that the modified version also be in colour where this is essential. In this case, candidates who have

difficulties with colour perception may require special arrangements, and their centres should advise the Awarding Body accordingly.

Papers should be produced on A4 pages, normally printed double-sided, and bound on the left so as to be able to be opened out flat. The modifier may specify that diagrams or other sheets are tagged so that they may be easily detached if necessary. The paper used should be non-glossy and of a sufficient weight (minimum 100 gsm) to avoid any 'show through'.

The main typeface should be Arial 18 pt bold, with at least 4 pt leading (i.e. 18 on 22 pt). Headings such as those at the beginning of the paper may be in a larger size, e.g. 36 pt; internal headings in a medium size, e.g. 26 pt. Small print in the original (e.g. newsprint, train timetables, etc.) should be reproduced in the ordinary large print size used for the rest of the paper.

Special attention should be given to special characters such as arithmetical signs (+, −, =, ÷, ≤, ×), decimal points, spots, etc., to ensure that they are of sufficient weight. For the multiplication sign, producers should ensure that it is a genuine multiplication sign, rather than the letter 'x'. The decimal point should if possible not be written as a full stop, but raised, thus: 3·6. Fractions should be 16pt for both numerator and denominator if possible. Refer to the Mathematics section for further guidance on the setting of mathematical expressions.

In general, italics should be avoided. Where words or phrases are italicised to show emphasis or some other distinction within ordinary text, capitals should normally be substituted. The same applies to words which are in bold print, or underlined.

Quotation marks should generally be used to replace italics for quoted phrases within ordinary text. Italics used for entire passages or sentences which do not require distinction should generally be ignored. Examples include instructions to the candidate and quoted extracts. Italics should not be used for algebraic letters, etc., in mathematical expressions: refer to the Mathematics section for further guidance.

Where numbers or letters, etc., are given extra spacing in the original to make them stand out, the same method should be used in the modified large print.

Paragraphs should be ragged-right, not right-justified. The general style of the original print in the placement of question numbers and the indentation of questions and sub-questions should normally be followed.

The headings and information at the start of the paper should be ordered in a simple way using centred headings and paragraphs, rather than more elaborate layouts which may be present in the original. Repetitions in this title information should be deleted (this often occurs for the time set), although a repeated instruction after a page turn should be retained. Information stating 'This paper consists of ... printed pages ...' should be omitted. Spaces for the candidate to write his or her name should be retained.

Common sense alteration of instructions should be made. For example, if the original instructions refer to candidates using answering boxes, whereas the answering spaces are indicated otherwise in the large print version, the wording should be changed accordingly. Similarly, references to diagrams, tables, etc., should be amended as necessary. Where a separate answer booklet and graph paper are provided by the Awarding Body, the candidates should be instructed to use either these booklets or their usual

writing and graph paper. Otherwise changes of wording should only be made on the instruction of the modifier.

Boxes or special margins for examiner's use should be omitted.

Just as in the original, the text and diagrams must be split up and arranged on the pages with consideration for what information will be visible at one time across facing pages when the booklet is open. In particular, it should be the aim, where possible, to arrange that diagrams appear on the same page spread as the question(s) which relate to them. The same applies to tables and other ancillary material. However, the basic order of the material as presented in the original should normally be adhered to. Thus it may be necessary to leave lower parts of pages blank, or even whole (right-hand) pages blank, in order to achieve the optimum presentation of a question.

Where a whole page is left blank (and not used for answering) the words [BLANK PAGE] should be centred near the top of the page. However, it is not necessary to retain blank pages appearing in the original (unless they are to be used for answering).

Where questions are long, rather than starting a new question half-way down or near the bottom of a page, start the question on a new page. The same applies to sub-questions. Where questions continue onto the next page this should be indicated at the bottom of the page, and at the top of the next page with suitable wording, e.g. 'Question continued on the next page', 'Question1 (b) (i) continued from the previous page', or using the wording of the original print.

In general, more space should be left between questions than between paragraphs or sub-questions. If dividing lines are used between questions in the original this practice should be followed in the large print paper.

Spaces for answering and working should normally be reproduced in the large print version of the paper if present in the original. Answering spaces should normally be placed on the left in the large print paper even if placed at the right margin in the original. A line thickness of about 1.3 pt is suitable for answering lines.

If grids or tables form part of a response, these should normally be retained.

M The modifier should suggest the degree of enlargement necessary for such grids or tables to allow their use by candidates with a visual impairment. The modifier should also request that answering lines be inserted within a box or section where a written text answer will occupy more than one line. Column and row headings in tables need not be in upper case.

The number of marks should normally be placed immediately after the text of the question, rather than at the right margin or after a diagram or table associated with the question. Where a question ends with a mathematical expression without following punctuation, the number of marks should be moved to the beginning of the next line.

If the original repeats question numbers when a question continues on a new page (or for left-hand pages only), a similar style should be adopted for the large print paper.

Unnecessary boxes framing items of information can be omitted.

Dividing lines between rows and columns in tables should normally be retained; but where absent in the original, lead lines consisting of dots should be used between the entries within rows. However, where an entry is blank, lead lines should not run across a column

of figures which needs to be treated as a sum, such as in a balance sheet.

M   If tabular information is to be searched through, the volume of information will often need to be reduced by the modifier. If the original print table does not exceed one page then the large print table should not usually exceed one page.

M   Where several source passages are to be referred to in answering a question, the modifier should add suitable headings to identify them if they are not already identified in such a way.

The modifier may request that source texts and questions be placed in separate booklets (e.g. for reading comprehension tests). Appropriate adjustments to the instructions giving the correct references should be made by the producer (e.g. 'Refer to the passage on page 3 of the separate booklet.').

M   It is the modifier's responsibility to specify when texts and questions should be separated in this way; the producer will not use this method unless instructed.

4.3.1   Diagrams

M   Where questions include cartoons, photographs, sketches, diagrams or graphs, the modifier should decide what information a fully sighted candidate is expected to obtain from the original print copy.

The modifier may recommend one of the following.

- A diagram or photograph is included, possibly supplemented by a written explanation. The diagram may be based on:

  - the original print version;

  - a simplified version provided by the modifier which may have to be broken down into two or more diagrams, with parts of the diagram highlighted.

- The replacement of source material written in cursive writing (e.g. in foreign language papers) by an ordinary print version.

- The replacement of pictures showing information to be picked out by the candidate (e.g. on a road sign) by the relevant information in words alone (e.g. the information on the road sign), with the remainder removed.

- A diagram or photograph is replaced by an accurate written description (which should be the same as that used in the modified braille paper if this exists) provided by the modifier. Extreme care must be taken not to lead the candidate towards the correct answer nor to give the candidate information which is not available to the sighted candidate.

- If the diagram presents particular problems, the following could be considered.

  - A sighted tactile version of the diagram (on swell paper).

  - A substitution of inaccessible source material.

  - Where all the above are deemed inappropriate, a replacement question.

The modifier may find it useful to ask for the illustrator's brief from the Awarding Body when dealing with diagrams (e.g. to help with descriptions).

Where diagrams need to be simplified or otherwise modified, specific instructions should be given by the modifier. A greater onus is placed on the modifier in the case of large print diagrams than in the case of tactile diagrams because the producer is less likely to be an expert in this field. The modifier may choose to produce a final version of the diagram personally or supply instructions for the producer of the large print paper. The following are the responsibility of the modifier to specify:

- Diagrams should be structurally correct but simplified, wherever possible, by removing unnecessary detail and clarifying relevant parts.

- Special care is needed with scale diagrams which cannot be enlarged without the scale factor being affected. It may be necessary to re-draw a scale diagram completely in order to create a scale of equivalent standard to the original. An alternative is to alter the relevant numerical values in the question or those required for the answer so that the enlarged scale diagram (using the original scale) gives the correct results.

- Line discrimination should be obtained by using a variety of thicknesses and patterns.

- Where contrast is required on a diagram, the different areas should be shaded in such a way that they do not conflict or confuse (it may be necessary to re-draw the diagram if this is not possible). A key should be provided in a prominent position on the diagram itself. Centres should be given the option of adding colour to diagrams at

the start of the examination, subject to the approval of the Awarding Body.

- In general, graphs should show only major grid lines, whether or not these appear on the original print version. (Grid spacing of 1.5 cm or 2 cm is generally appropriate.) It may be necessary for the modifier to alter the scale on the axes or the data in a given table in order to facilitate this. Areas of the graph, such as bars or segments on a pie chart should, if necessary, be highlighted using thicker lines or shading. Major grid lines should be shown on bar charts even if not present in the original.

- Different areas of a map or diagram may need to be distinguished by using clearly differentiated types of line or shading and a key provided where necessary.

- The modifier should specify that features of geometric diagrams e.g. equal length line markings and parallel line markings should be stated in writing as well as on the diagram. This might mean that diagrams need to be labelled where they are not labelled in the original.

- When dealing with 3-D diagrams, the modifier should consider the use of models to supplement the diagrams. The specification of such models should be given by the modifier to the Awarding Body who will instruct the examination centre accordingly. Models will not normally be provided by the print agencies.

Unless instructed otherwise, diagrams should be placed with the question as in the original paper; however, the modifier may specify that diagrams be placed in a separate booklet, and in this case the diagram heading(s) should state the question number (e.g. 'Diagram for question 8'), as well as any other heading

information present in the original. This practice should also be followed if diagrams are on loose sheets.

Diagram headings should normally be placed at the top of the diagram, whatever the position in the original. Where a modification involves the insertion of names of pictures (to help identification), the names should be placed before the picture with the picture number or letter, if present, so that the name is easily spotted by the candidate.

Diagrams should be enlarged to ensure clarity, using bold black lines where possible, unless there are issues with contrast with the plotted line on a graph. In this situation grey lines may be required. A suitable line width is between 2 pt and 4 pt (for thin and thick lines).

2 pt   4 pt

Names or labels on maps and diagrams should be at least the same size as the main text but they may have to be spaced differently to make the diagram clearer. Labels should be horizontal wherever possible.

A label such as 'not drawn to scale' should be placed at the top left of a diagram so that it is not missed.

M   Modifiers should ensure that label lines and arrows be avoided where possible and a key provided. Where such lines or arrows are essential they should be straight and of a suitable thickness. Such lines should not cross one another and those close to one another should be produced in different formats.

4.3.2   Binding of diagrams

M   When an examination paper includes both text and diagrams, the modifier should recommend one of the following options:

- the diagrams are placed with the appropriate questions (the producer will do this unless instructed otherwise by the modifier);

- they should be bound (or tagged) in a separate booklet;

- they should be tagged at the end of the paper so that they are removable from the text.

Diagrams should not be bound at the end of the question booklet. When deciding on the positioning of diagrams, photographs, etc., within the finished examination paper, particular attention should be paid to the nature of the testing. Enlarged graphs or diagrams which are to be used by the candidate and submitted as part of an answer need to be worked on loose, and so should be easily detachable. Binding and tagging can impede the use of rulers, etc., so the candidate should be able to work on any such diagrams loose.

4.3.3   Drawing and measuring

M   Where the degree of accuracy expected of sighted candidates is plus or minus 0.1 cm (or 2 degrees) then the degree of accuracy expected of candidates with a visual impairment should normally not be greater than plus or minus 0.5 cm (or 5 degrees) as long as this is consistent with the assessment objectives of the exam concerned.

Where candidates are required to complete or draw a pie-chart, the modifier should ask that a pie-chart template be provided. The template should consist of a circle marked with a very large centre point. There should be 10 degree markings cutting the circumference. 90 degree markings may be slightly longer. A vertical starting line (from the centre up to 0 degrees) should be drawn.

The modifier must ensure that large scale equipment can be used. For example, large print protractors have a radius of 8 cm and so all lines forming an angle must be at least 9 cm long if a protractor is to be used.

Many candidates with a visual impairment have no 3D vision, and many cannot cope with using isometric paper (paper pre-printed with a pattern of dots for 3D drawing). Questions must not ask candidates to draw 3D shapes either on blank paper or on isometric paper: such questions should be modified to avoid this.

Subject specific guidelines

The following guidelines apply to modified large print papers only, except where it is explicitly stated that a point relates to enlarged papers.

4.4   English

M   Refer to the section on English in Section B as regards illustrative material: The same guidelines apply.

For reading comprehension tests where the passages are on average longer than about 20 lines in the original, the modifier should request that the questions and passages be

placed in separate booklets. Where the passages include texts with gaps and set words or phrases to be inserted, the modifier should normally specify that the passage be placed in the question booklet, and the set words or phrases be placed in the passages booklet.

In questions where the candidate has to modify a given word and insert it into a gapped text, if the given words are printed at the end of each line, the modifier should instruct the producer that the words should normally be bracketed and the rubric amended appropriately, e.g. to refer to 'the word given in brackets at the end of each line'.

4.5 Geography

M   Refer to the section on geography in Section B: The same guidelines apply.

4.6 History

M   Refer to the section on history in Section B: The same guidelines apply.

4.7 ICT and text processing

M   Where the examination paper includes material which has been previously released to the candidate for working on in class, the modifier should instruct the producer to place it in a separate clearly labelled pamphlet. The modifier should specify an appropriate label, and ensure that any other

necessary modifications are made to the candidate's instructions.

The modifier must identify the questions where it is important to use special layouts or presentation of information. There are four suggested techniques. Modifiers should choose the most appropriate way and provide instructions for the producer:

* Diagram with key. Use texture rather than outlines where use of 'white space' may need to be identified.

* Summary description at beginning. Alternative vocabulary or modification of the question would be required if words such as 'logo', 'bold' are the required answers.

* Use of square bracketed explanatory notes within the document (assuming square brackets are not used for other purposes in the document).

* Remove content not relevant to the question and replace with a description. e.g. [Text about boat trip] [Table of 2 columns and 5 rows showing route and distances].

4.8 Mathematics

In addition to arithmetical signs, powers, roots and degree signs must all be made very clear, and be of a good size. Genuine mathematical signs should be used, rather than something that looks like the sign, such as the letter 'x' for a multiplication sign.

Algebraic letters in mathematical expressions should normally not be italicised, but extra spaces should be inserted before and after such expressions so that they stand out from the normal text. Where there are expressions with superscripts and subscripts in a paper, the base font for mathematical expressions throughout the

paper should be increased to 20 pt, with indexes printed in 16 pt,

e.g. 2^3. Fractions should be 16 pt for both numerator and denominator if possible. Vectors shown in the original by bold font should be underlined instead in the modified large print version.

M The modifier should instruct the producer if an alternative approach should be used, e.g. using a different font size, or specially placing mathematical expressions on separate lines.

M When modifying a transformation question, it can be helpful for a cut-out shape to be supplied to the candidate. The modifier should initiate arrangements for this when needed.

It may be preferable in transformation questions to give the image as well as the object on the diagram and for the candidates to be asked to describe fully the transformation shown. (A reversal of the question which avoids drawing problems.)

4.9 Modern foreign languages

Passages and questions relating to them should be arranged wherever possible so that both are visible across facing pages when the exam paper is open.

M   Reading

Reading passages which are longer than about 100 words should normally be placed in a separate booklet so that the candidate can easily refer to both the passage and the accompanying questions. The modifier should indicate any such cases for the producer. Shorter passages in the same paper should remain in the question booklet.

In special cases, and with prior approval from the Awarding Body, the modifier may specify a different technique in which a long passage remains in the question booklet, and is divided into suitable sections, with the questions inserted before their corresponding sections. (It is the responsibility of the modifier to specify both the moving of questions and the splitting of passages for the producer.) Where necessary, the modifier should make appropriate amendments to the candidate's instructions when the material has been rearranged in this way.

Speaking

Where there are illustrations in the paper, the modifier should request a copy of the illustrator's original brief from the Awarding Body, in order to be clear as to the original purpose and required content.

Where there is a story using a complicated layout with arrows winding through a series of pictures, the layout should be reorganised and enlarged, and a written description in English (in brackets) should be included, also stating the target language. Any target language in the original should be retained.

Listening

Modifiers must obtain a transcript of the tape in order to know what is being tested.

Writing

The above points are applied where applicable.

General

If the modifier decides that a map is not needed, then it should be omitted. For example, a key referring to the objects on the map may be sufficient to stand alone.

Examination rubrics in the target language will need to be amended by the modifier to take account of the different methods of working of candidates with a visual impairment. For example, 'cochez la bonne case' ('tick the correct box') would become 'écrivez la bonne lettre' ('write the correct letter').

4.10 Music

For enlarged papers it is especially important that the producer ensures that the print quality of the original is adequate to give a clear enlargement. If this is not the case then a new large print version of the score will be necessary. For modified enlarged papers it is especially important that the producer ensures that all the modified page information is included as scores often go to the extremes of page margins. Score booklets are often better suited to landscape than portrait. For guidance on producing modified large print music stave notation, please see UKAAF's *G009 Modified Stave Notation* guidance booklet.

Copyright © 2017 UK Association for Accessible Formats

Where candidates are required to place their answers on a score, alternative rubric needs to be employed to allow the candidate to answer in words, as in "describe precisely the pitches in bars x and y" as well as "Write the missing notes in bars x and y".

M   Supplementary Music Texts (Excerpts)

The modifier should instruct the producer that these be produced in a separate booklet, depending on what is required from the question.

Consistency

Consistency from year to year is of particular importance, especially regarding the use of past papers for practice. When there is a change of modifier, the new modifier must base his or her modifications on previous practice.

4.11 Religious education

M   Refer to the section on religious education in Section B: The same guidelines apply.

5   Section D – Screen Reader Software

5.1   Introduction

A system has been in place for some years to provide candidates who have visual impairments with Modified Large Print or Braille versions of exam papers for General Qualifications. It is increasingly common for these candidates to do much of their studying through the medium of computers, made accessible via the medium of screen reader software. Given that they already

answer many of their exam papers using the same technology, many of these candidates would find it more efficient if the question papers were also accessible in the same way. More significantly, some candidates, for reasons such as sudden onset of a visual impairment, with inadequate time to learn braille, have no other means to work independently in exams.

Speech as a working medium has some characteristics in common with braille - it is a serial form, where one thing follows another in a linear sequence. Other characteristics, such as the transience of speech, are different and require a different approach.

There are also issues around the implementation of screen reader technology. The context for a braille user is more narrowly defined than that for a screen reader user, so it is easier for a modifier to know what experience as a braillist a candidate is likely to have had. Screen reader software programs are not designed to a common standard, so the facilities offered by them can vary widely. In addition, once installed a screen reader can be configured in many different ways to suit the needs and preferences of the user. Also there can be great variability in the skill level of the user, depending on the length of time they have been using a screen reader and the level of instructional expertise to which they have had access.

For these reasons it is felt that exam modifiers and producers following 'Best Practice Guidance' would benefit from the introduction of a new section, to supplement the advice already given in the Braille and Large Print sections. However, even with the best advice and the most careful attention to the technical aspects of the production process, it should not be taken for granted that exam papers in every subject and every type of printed material can necessarily be translated meaningfully into a form accessible via speech. The modifier's first task is to decide

whether a given exam paper can be made usable by a screen reader user.

5.2   General points

The term 'original paper' is used to refer throughout to a paper copy of the standard print paper produced by the awarding body.

Examples of shortcut keys for navigating a document and issuing commands to the screen reader software are all based on the MS Windows operating system. Similar commands exist in other operating systems.

5.3   Knowledge and experience required

The modifier needs to understand the reasons that a separate version of an exam paper is required for screen reader users, and to understand how to make that paper both accessible and usable. It is therefore highly desirable for a modifier to have relevant subject expertise at the appropriate academic level, experience of working with pupils with visual impairments and a working knowledge of at least one screen reader software package. These expectations are similar in principle to those for a modifier for braille.

Likewise the producer of the screen reader version needs to have enough knowledge of the subject being examined and the workings of a typical screen reader to be able to produce materials that will convey the information intended by the examiner, in conjunction with the modifier's recommendations.

The document 'Accessible PDFs for Assessment', UKAAF Minimum Standards MS04, November 2014 describes the technical aspects of producing such files. The document allows for two levels of accessibility. The first level is intended for candidates who might have one of a number of disabilities, but who will work

essentially visually with the exam paper. Level two is intended for use by candidates who are blind or who have a significant visual impairment. It is envisaged that most candidates who submit a special request for an accessible PDF version of an exam paper will fall in the second category. However, in case this is not so, the awarding body should clarify with the examination centre submitting the request which level of accessibility the candidate requires, and they should pass this information on to the modifier.

The screen reader version of the exam paper will generally be a PDF file for the main question text (although this will be subject to specification by the awarding body). This might be accompanied by diagrams in a medium chosen by the candidate and their exam centre, usually modified large print diagrams, or tactile diagrams on brailon or swell paper, with braille or print labels. There might also be additional PDF, HTML or other files, as dictated by the requirements of the exam. These might include content such as a screen shot that is to be examined electronically by the candidate with their screen reader, or sources in an English Literature or History paper, where the modifier or producer judge it would be easier to have them as separate files from the questions.

5.4 Language

When modifying material specifically to be accessed by means of a computer and screen reader it is essential to bear in mind the nature and limitations of speech as a communications medium. It is not proposed to cover the theory of this topic in any depth here, but the modifier should be experienced in working with pupils who use screen readers and should be keep in mind basic aspects such as the following.

• Speech is a serial medium, i.e. one thing follows another in a linear sequence, and a reader (hearer) cannot flick to and fro between parts of the material as easily as can be done visually.

For comparison, braillist pupils sitting English exams are commonly taught to read a question, then start reading the source text, in order to optimise their use of the time available, to focus the purpose of their reading, and to reduce the memory burden. Similarly, for a screen reader version the modifier should give careful consideration to the order in which questions and the information on which they are based are given. This may depend in part on the amount of information. It might work best with the information first for small amounts, but the questions first for larger sources.

- Speech is transient, i.e. once heard it no longer exists but must be 'replayed' if required, unlike printed text or braille on paper which just stays there unchanged. This puts an extra load on the reader's short term memory. An unreasonable memory load should not be required of exam candidates.

These aspects are addressed in greater detail later in this document.

To summarise, the modified text should **sound** sensible and it should be clear what the candidate is expected to do, **when heard as speech**. The modifier could test their ideas and recommendations for modifications using a free screen reader such as NVDA, Thunder or the free edition of Window Eyes. (The free screen reader Narrator included with MS Windows does not have adequate facilities to be considered as suitable for serious use by pupils with visual impairments.) This means that the modifier will require access to an electronic version of the original paper.

5.5 File type

There is a number of types of file that could be used for an exam paper that is to be accessible and usable for a screen reader user, including Adobe Reader (.pdf), Microsoft Word (.doc or .docx),

plain text (.txt) or internet browser (html or one of the related types). Although this is a matter for the producer, who will be working to the specification from the awarding body, there are implications for the modifier too.

Given the present state of screen reader technology and other factors it is likely that PDF will be the chosen format for the foreseeable future. However, this must only be considered acceptable if good practice is followed to ensure the file is designed and created in such a way as to be accessible to screen readers. Technical guidance on this aspect is published in 'Accessible PDFs for Assessment' UKAAF Minimum Standard MS04, 2014. (The document will be referred to in the remainder of this guidance document as 'Accessible PDFs ...'.) The guidelines take into account the constraints of speech as a medium of communication, the access facilities offered by the file type and the restrictions imposed by commonly available screen reader software and the related hardware.

For an exam paper, security of the content against accidental or deliberate alteration is probably the main concern, but accessibility is also important because the file must be usable. Read-only PDF files are widely used where the content is to be protected from alteration by the user. This in turn has implications for the method of answering by the candidate, and in turn for the way the questions are phrased, depending on whether the answers are to be given in the question paper (as in the original standard print format) or in a separate document. It is already common practice for exam papers modified for braille to be answered on separate paper in a manual braille typewriter or on a computer in a word processor file. Similar principles should be applied to the modification of papers to be accessed by means of a computer and screen reader.

Whichever file format is adopted careful consideration should be given to which of the available features of that format are employed, e.g. tables, form fields, graphic images. Such layouts are more difficult to navigate for a screen reader user so care should be taken not to assume an unreasonably high level of skill on the part of the candidate, or to assume facilities that aren't commonly provided by all screen readers. As a basic working principle the simpler the format in terms of text layout, the more likely the paper is to be accessible to users with a range of skill levels using a variety of screen reader programs.

5.6 Method of answering

The most likely scenario for a candidate who has requested a screen reader version of a paper is that they will word process their answers on the same computer as that on which they are reading the question paper, and accompanying files, if any, such as a case study, English Literature texts, or source material for a History paper. For this reason the modification for a screen reader follows the pattern of a modification for braille in many ways, where it is usually assumed that the candidate cannot (because of the limitations of braille writing technology) answer on the question paper.

The normal way of working with 2 or more files for a screen reader user is for them to employ a shortcut key, usually Alt with Tab to jump between applications such as Adobe Reader and MS Word, or Ctrl with F6 to jump between two MS Word files (these shortcuts are for MS Windows). If they have some sight then they might choose to use a mouse or track pad.

As with any candidate answering with a word processor, they must be careful to number their answers accurately. All other advice and restrictions specified by the examining body in relation to the use of word processors in exams will apply. If a candidate is unable or

chooses not to answer using a word processor then the usual Access Arrangements for using a Scribe or any other method that is available will apply.

5.7 File name

The file name should state clearly the subject, component, paper type (question paper, case study &c) and date set or to be sat, *but* as concisely as possible, i.e. without duplication or redundant information. This is because when the user jumps between files (e.g. question paper, case study and answer paper) the screen reader will announce the file name, so it should be short and obvious, not using numbers or other codes that are not meaningful to the candidate. This will also be important if the candidate inadvertently closes a file, by pressing an incorrect shortcut keystroke for instance, and needs to locate it in the file explorer facility to re-open it.

For instance a file might be named 'CEA ICT Unit 7 Question Paper', possibly adding the date 'June 2016' to ensure that it is identified uniquely.

The modifier might include a recommendation for the file name in their modification notes, although the final responsibility lies with the producer and the awarding body. They will wish to ensure that the file names of screen reader versions of different papers are adequately differentiated.

5.8 Screen Reader Capabilities and Settings

5.8.1 Basic features and shortcut keys

It would be helpful if the modifier and producer are aware of the range of techniques employed by screen reader users to control the screen reader software, so that they are aware of the types of difficulties that can easily arise inadvertently.

The modifier should have some knowledge of the facilities available to a screen reader to navigate a document. The screen reader will only speak what the user instructs it to, usually by means of commands given by shortcut keys.

Whilst it is not expected that the modifier will know the precise commands for more than one screen reader, they should be aware that shortcut keys can originate in four different ways.

1   Commands that are part of the operating system as standard, e.g. MS Windows, such as Alt with F4 to close an application.

2   Commands that are included as standard in the application being used for the document to be read, e.g. Adobe Reader, such as Ctrl with PgDn to go to the start of the next (print) page. These may or may not be the same in different applications.

3   Commands that are part of the screen reader software, such as numpad 5 to speak the current word and to spell it when pressed a second time.

4   User-configured commands; these might be alterations to any of the above commands, e.g. changing the screen reader shortcuts from the desktop PC set to the laptop PC set, or they might be additional commands created to make operations more efficient for the user, e.g. setting a shortcut key on a desktop icon to launch a program, such as AltGr with W to launch MS Word.

Many of these shortcuts are user-configurable, so it should not be assumed that particular shortcuts will be used, but it is reasonable to expect that candidates will have facilities for general operations, such as moving through document a character, word, line, paragraph or page at a time, or for moving to the start or end of the line or document, or using a Find or Search command to locate a particular word or expression.

Another potential source of difficulty is that candidates won't necessarily be aware of spellings when the screen reader is reading a line at a time or reading continuously, unless the candidate makes a conscious action to check them. If it is necessary to do so in order to answer a question fully then the modifier might suggest the addition of an instruction to this effect.

The modifier might suggest the incorporation of additional headings or lettering or numbering in order to identify particular extracts or paragraphs more easily, e.g. 'Question 4 Extract 2', or 'Extract 2 for question 4'.

5.8.2 Settings

Screen readers can include features to allow the user to control many aspects of how text is read out. The more obvious features include the voice pitch and the speed with which text is read. Less obvious ones, perhaps more likely to be exploited by a more advanced user, include whether and how capital letters are indicated, whether and how much punctuation is spoken, and how much detail is given in certain situations (verbosity). Typeform indicators (bold, italic, underline etc.) might also be indicated explicitly or not.

The modifier should not therefore assume, for instance, that capital letters will be obvious to the candidate or that punctuation will be announced, other than perhaps by a pause at the end of a sentence and, in some screen readers, by the intonation. Beyond this basic level the candidate would have to take a conscious decision to examine the text to discover these aspects, and should be directed to do so if necessary. It would not be fair to expect them to notice these features if they were essential to giving the correct answer to a question. If the mark scheme for a paper specifies that marks are to be allocated for spelling, punctuation or grammar, including capitalisation, then it might be necessary to

indicate this more explicitly than usual in the screen reader version.

It might be appropriate to recommend to the exam centre staff, via instructions for the conduct of the screen reader version of the paper, that they remind the candidate that they might need to consider whether they need to adjust their screen reader settings. In particular they might check the settings for speaking of capitals, punctuation and the verbosity level, in order not to miss anything important. The candidate might request help to check or change these settings; they are not, after all, being examined on their skill in the use of a screen reader.

5.8.3   Heading and other styles

The importance of consistent use of heading and other styles in documents to be accessed via a screen reader is covered in detail in 'Accessible PDFs ...'. The correct use of styles is important to the *structure* rather than the printed appearance of a document.

Styles are useful to the screen reader user because, for example, some screen readers include a command to jump to the next heading. If heading styles are used for question numbers then the candidate can jump easily on to the next question, or back to the previous one, operations that would be trivial for a sighted candidate.

The use of heading styles also makes it easy to compile a Table of Contents for the document. This can also very helpful to the candidate, especially if they wish to re-visit a question they were unable to answer fully on first encounter, or if they change their mind about their answer. It is particularly helpful if the Table of Contents entries are created as active links or hyperlinks. (Alternatively the user might use a shortcut key to go to a particular page, located via the Table of Contents, or they might use a Find or Search command to locate a particular question).

5.8.4   Implications for modification

In the light of the information above the modifier will realise that it is beneficial to keep the modified document as simple as possible. No assumptions should be made, implicitly or otherwise, about particular software settings and shortcut keys, but it might be necessary to flag up to the candidate the need to attend to capitals, punctuation or spelling in particular individual questions. The default assumption should be that the most general commands are available to the candidate for navigating and speaking the contents of the file. In addition the modifier might make recommendations to the producer for the heading levels to be used in the screen reader document, especially for any additional headings that are introduced for sources or extracts, as suggested earlier. Detailed recommendations for a system of heading levels are given in the section 5.15 Question numbers and heading styles below.

5.9   Text Alignment

Generally left-aligned text is preferable both visually (if the candidate has any useful vision) and with a screen reader. If adjacent lines are aligned differently and the candidate uses the up or down cursor keys to move through a document this might give rise to confusion regarding the cursor position along the line.

5.10 Pagination and Blank Pages

It is not necessary to replicate or indicate the pagination of the original paper in the screen reader version.

There are usually commands in the operating system to move either (printed) page by page (Ctrl with PgUp/PgDn in MS Word or Adobe Reader) or screen by screen (PgUp or PgDn). The modifier might take advantage of this by recommending that each question is started at the top of a new page if the questions are not too

short, so that the candidate can use the appropriate command to jump to the start of the next question. Also it might be easier to follow the text with cursor key movements if page breaks are avoided in the middle of questions as far as possible.

Any blank pages present in the original paper, for instance to ensure that certain pages are facing each other, should be removed as they will have no useful effect in the screen reader version. Likewise references in the question text to 'the page opposite' or similar should be re-worded appropriately.

5.11 Mark-up symbols and conventions

There is a system of standard copy editing mark-up symbols that are used by some modifiers and exam boards when annotating an original paper to be modified for large print or braille. This system might not contain symbols for heading styles. The symbols #H1, #H2 etc. are recommended to indicate heading style 1, heading style 2 and so on.

5.12 Print transcript of the screen reader version

A print copy of the screen reader version should always be provided for use by any staff supporting the candidate during the course of the exam. This is especially important if the candidate is reading the paper on a device without a screen, such as a QWERTY or braille notetaker.

By default the Print Transcript is just a printed copy of the screen reader document file. One addition that might be required is wording to indicate that it is a 'Print transcription of a version for use with a screen reader' if words to that effect are not included within the file. Any text that is 'hidden' in the screen reader version but will be spoken by the screen reader, such as alternative text descriptions for graphic images, should also be included in the Print Transcript.

It might also be desirable to include information on a cover sheet that has been deliberately excluded from the screen reader file because it is has been deemed unnecessary for the candidate to read it, such as logos, strap lines, paper reference codes, the table for marks and so on. It should be explicitly stated that it is not included in the screen reader text.

5.13 Modification of the exam paper cover page

- Remove any inessential information, e.g. logo and strap line, bar codes, Examiner's mark boxes etc. (These might be included in the Print Transcript of the screen reader version, as suggested above.)

- Re-arrange titles/headings/exam board name etc. into longer groups that 'read' sensibly, e.g. 'OCR Advanced General Certificate of Education' all on one line rather than split over two lines.

- Avoid duplication of information such as the date of the paper; decide where is the most important place for it to appear and include it just once.

- Ensure that the title says exactly what the document is, i.e. 'question paper', 'case study', 'pre-release case study', 'formula list' etc. Add this if it is not explicit in the original paper.

- The title should include the words 'screen reader version'. This would avoid confusion, for example, with the unmodified PDF version of the original paper, if such a version existed.

- Graphics such as dividing lines across the page should be omitted. They would not be recognised by the screen reader and their inclusion in the Print Transcript would therefore be potentially misleading.

- If the paper is to be read from but not written in (by means of form fields or other methods) then references to writing on the

paper e.g. 'in the spaces provided' should be changed as appropriate, e.g. to 'in your answer document'.

- Notes on the cover sheet about figures in brackets showing the number of marks for a question or part of a question should be replaced with wording similar to the following or to the same effect. (This is to be done in conjunction with alterations to questions where blank lines are provided for handwritten answers (see the section 5.22 Blank lines and marks below.)

> The number of marks for each question or part-question are given immediately after the question or part-question wording.
>
> Where a number of lines is stated before the marks at the end of a question this is the number of lines allowed for the answer in the standard print version of the paper. It is an indication, together with the number of marks for the question, of how long your answer should be.

- Marks for quality of written communication indicated by asterisks or other symbols: replace the wording on the cover sheet with 'Quality of written communication will be assessed in question numbers ...'. It is *not* reasonable to expect a candidate to notice a single symbol such as an asterisk within a stream of continuous speech. The asterisk (star) might not be spoken at all if the punctuation vocalisation was set to 'none'.

5.14 Modification of exam paper questions

Some of these recommendations affect the producer as much as the modifier. However, it is desirable that they work to a common standard, and that the modifier will know what to expect the screen reader to say from the finished version created by the producer. Some items covered below, such as the approach to be used with question numbers, will be standard for all papers. Others will need to be dealt with individually and might require more specific recommendations by the modifier.

5.15 Question numbers and heading styles

- Use heading styles Heading level 1 (indicated by #H1 in the modification mark-up), Heading level 2 (#H2) and Heading level 3 (#H3). Usually 3 levels are sufficient, although occasionally it might be helpful to have a 4th; more could be confusing.

- Heading level 1: question numbers, with the word 'Question', thus: 'Question 5'; also major divisions of the paper such as 'Section A', 'Section B'.

- Heading level 2: part-questions e.g. (a) (b) (c) or (i) (ii) (ii). Include the question number, thus: 2(a) 2(b) 2(c) etc., otherwise an inadvertent jump to a different page could, for instance, lead the candidate to part (b) of the wrong question and they might not realise what has happened.

- Heading level 3: sub-divisions within question parts, as necessary.

- Question text should be Body Text style, or whatever name is used in your editing software for the default paragraph text style.

- Heading styles can only be used for a whole line (technically a paragraph) so when used for question numbers or part-numbers they must be separated from any following text by a hard return. For example (note that the actual appearance of each style is immaterial to the structure) the following question as it might appear in the original paper:

> **3.**
>
> **(a) Name the part of a flower that is brightly coloured to attract insects.**
>
> **(b) ...**

should be reformatted thus:

> **Question 3** (Heading style 1)
>
> **3(a)** (Heading style 2)
>
> **Name the part of a flower that is brightly coloured to attract insects.** (Body Text style)
>
> **3(b)** (Heading style 2)
>
> ...

5.16 Isolated numbers

Care should be taken to avoid isolated numbers that will not have an obvious context when spoken by the screen reader. Generally numbers *within* question text will be clearly identified by the wording, for instance by units of measurement or in simple maths questions by the operators and comparison signs. Numbers that stand alone should be given a word, label or other identification to explain their context, e.g. 'question 5', 'page 23', etc.

5.17 Question layout and language

* The question text should flow in a logical way, with as little referring backwards or forwards as possible. For instance you might be able to re-arrange the text into a part containing description and/or information, followed by the question or task.

    Example 1: A question from a maths exam, where some of the question wording comes after the last question part, part (iii):

    > (d) For what values of k does the equation have:
    >   (i) 0
    >   (ii) 1
    >   (iii) 2 real roots

    This should be re-worded so as to bring the end part into the question stem, before the first subdivision, part (i):

1(d)

For what values of k does the equation have the following numbers of real roots:

> 1(d)(i) 0 roots
>
> 1(d)(ii) 1 root
>
> 1(d)(iii) 2 roots

Example 2: In another common format some of the information is given before the question part number to which it relates. In this case the question part number should be moved so that it comes before the information relating to that question part, even if the information refers to following question parts as well. Some re-wording might be necessary to make this clear. Alternatively an introduction to the information passage could be written, indicating to which of the following question parts it relates.

• Some questions direct the candidate to answer in spaces or blank lines on the question paper. The appropriate re-phrasing of this type of question depends on how the paper is to be answered, whether within the question paper (form fields etc.) or in a separate word-processed file, or handwritten, brailled or dictated to a scribe. Given the complexity of producing accessible PDF files with form fields in which the candidate is to write their answers, and the additional complexity for the candidate of navigating a file in such a format, it seems preferable at present for the candidate to answer in a separate word processor file and to re-word the question accordingly, following the principles for similar modifications for braille papers.

The awarding body, when commissioning the modification, should make it clear to the modifier what answering method the candidate is expected to use. This should also be stated clearly

in the Instructions for Candidates at the start of the paper.

If the candidate was required to answer in form fields in the PDF question paper then instructions should be given via the exam centre to save the file containing the answers with a modified file name, at the start of the exam. This will ensure that the original file is preserved unaltered, in case of need to return to the original.

5.18 Indirect references

- Use direct rather than indirect references to other items of information or locations in the paper, e.g. change 'the above document' to 'the sample Task Schedule'. Another approach would be to insert additional Figure or Diagram numbers in such a way as to fit in with any numbering system already in use in the paper.

- Indirect reference to a number of items, based on the assumption that the candidate will see immediately how many there are: *state* the number of items explicitly and the numbering system and range:
  e.g. 'Which of the following lists ...'
  should be changed to: 'Which of the following three lists (a) to (c) ...'.

5.19 Answering boxes

If the paper is to be answered in a separate word processed document boxes to be filled in should not be reproduced in the screen reader version and any references to them, such as 'in the spaces above' or 'in the boxes on the answer sheet' should be altered to something like 'answers should be written on your answer sheet'.

If form fields are to be used within the question paper PDF file then the instructions for answering should be re-worded appropriately.

Form fields should be identified, usually with the question number and part number as appropriate, by text labels as described in 'Accessible PDFs ...'.

5.20 Graphic text

All text should be plain typed text, not created in drawing software, nor Word Art, nor any other form of graphic text unless it is essential to the point of the question. In this case it should be labelled with alternative text descriptions like any other graphic object.

If the original paper contains graphic text then the modifier should recommend removing it, or converting it to standard text, or should describe it, depending on the requirements of the question. The modifier might not be able to tell from reviewing the hard copy paper whether any text is graphic text or ordinary text. In this case they should mark up such text with instructions as to how it should be altered if the original is created by means of graphic text.

It is preferable for the modifier to work from an electronic copy of the original paper, especially as this is likely to form the starting point for the producer to create the screen reader version. This would enable the modifier to check for certain potential difficulties, and to avoid wasting time considering aspects that work satisfactorily with a screen reader without modification.

5.21 Text boxes

Text in graphic text boxes might be plain text that is readable by the screen reader, but the candidate might not realise it is there if they cannot see it to route the cursor to it. Such text is best placed in an appropriate place in the main question text. As for graphic text above, modifiers should mark up each occasion where they cannot tell from the hard copy whether text is within a graphic text box.

Some of the requirements for modifying graphic text and text in graphic boxes could be avoided if such facilities were avoided in the production of the PDF version of the original paper.

5.22 Blank lines and marks

State the number of blank lines given in the original paper for the answer, if there are two or more, with the number of marks available, in square brackets in line with the text at the end of the question text, *not* right-aligned on a separate line.

E.g. 'Provide a detailed justification for your choice. [13 lines, 6 marks]'

5.23 Headers and footers

- Directing a screen reader to headers or footers requires a higher skill level on the part of the candidate than that required for reading plain sequential document text. Headers and footers should not necessarily be excluded completely, but should be used with care and only if thought to be essential.

- Headers and footers should be defined properly so that the information in them is available if the candidate wishes to access it but does not appear in the main flow of the document text.

- Any paper identification code or similar information should be omitted from headers or footers as it will not be meaningful to the candidate and is not essential for them to answer the paper correctly.

- 'Turn over' and similar instructions should be omitted from footers and the main body of the text.

5.24 Prompts for handwritten answers

Where blank lines for handwritten answers include prompts such as 'Advantage' and 'Disadvantage' then the prompts, as well as the

blank lines, should be omitted. The question wording might need to be changed to make it clear what is required and to indicate the allocation of marks to each answer.

For example:

> Suggest three fields that should be stored in this table.
>
> Field 1 _____ [1]
>
> Field 2 _____ [1]
>
> Field 3 _____ [1]

- Omit the blank lines and the prompts 'Field 1' to 'Field 3'.

- Add wording to the marks: [3 fields, 1 mark each] or [3 marks in total] and place it immediately after the question text.

- Where a single line is given for answers that are probably only one or two words long it is not necessary to indicate how many blank lines were allowed in the original paper.

5.25 Tables

5.25.1 General points

- The Figure number or Table number and title should be positioned before, not after the table as is common practice in original papers currently.

- It might assist the candidate to include the question number in the Figure or Table title, e.g. 'Table 2 for question 3'.

- It might also help the candidate to navigate efficiently to place a comment such as '[End of Table nn]' on a line after the last line of data.

- It is important for navigation of a table by screen reader that column headings and row headings are given meaningful labels if possible.

- If tabular information is to be searched by the candidate the volume of information will sometimes need to be reduced by the modifier because of the time taken to read the table and the short-term memory burden of remembering what has been read. If the print table does not exceed one page then the reduced table should contain about half to two-thirds as much information, as would be the case for a braille version of the paper. The modifier should ensure either that the same question can still be answered from the reduced data, or the question or the correct answer should be adjusted to suit.

- If the modified table occupies between about half a page and a whole page then it will simplify navigation to position it at the start of a new page, and to add a page break at the end of the table.

- If there is a large amount of information in each cell it is preferable to keep it to a single line of text rather than wrapping within the cell, by using a smaller text font and/or by adjusting the width of table columns so that none of the columns have wasted horizontal space. Abbreviation of column headings may help to achieve this.

- It can also be helpful to insert a summary after the table title and before the start of the table, indicating how many rows and columns there are, and if necessary, how many pages the table occupies.

5.25.2 Table where some items are to be selected by writing ticks or labelling TRUE or FALSE.

- This is not really a table in the sense of having several columns cross-referenced to several rows, but is in effect a single

column, i.e. a list. The table format is used only for visual convenience, but is not as convenient when working in speech.

1. Change the table to a list, omitting all border lines.

2. Label the items (rows) (a) (b) (c) etc., or Roman numerals (i) (ii) (iii) etc., or some other means such as A. B. C. or numbers - something that will not be confused with the question part numbering.

3. Re-arrange the wording appropriately, stating the number of items or choices and the number to be selected, e.g. 'Eight possible reasons (a) to (h) ... are listed below. Identify five of the eight ...'

4. The candidate will identify their chosen items in their separate answer document, referenced by the letters or numbers.

5.25.3 Table with blank cells to be filled

- Indirect references such as 'Complete the following.' should be changed to something like:
  'The following table is incomplete. It contains six blank cells labelled 'blank 3a' to 'blank 3f'. Write what should go in each blank cell.'

1. Note that the candidate is told the number of blank cells that they need to locate and how they are labelled.

2. It is preferable if space allows and the result is not too clumsy that the question number, in this case '3' precedes the letters or numbers used to identify the blank cells; this will avoid confusion should the screen reader cursor be moved accidentally out of the table and into another, e.g. with an accidental press of the PgDn key, or a key that jumps to another table.

3. If lower case letters could be confused with the question numbers or other labels in the question, then some other labelling method should be adopted (e.g. numbers, Roman numerals, etc.).

5.25.4 Information in the form of short word or phrases presented as an array of rows and columns (without table borders)

Items to be re-organised in a certain order, or from which to make selections, for example:

design questionnaire   observe Harry   compile
report

present findings   administer customer   interview
Harry

                           questionnaire

These items should be presented as a single list, one item per line, possibly with a title with an appropriate Heading style, and followed by a separator such as a blank line after the last item, as follows:

5.25.5 List of tasks

design questionnaire

observe Harry

compile report

present finding

administer customer questionnaire

interview Harry

[end of list of tasks]

5.26 Miscellaneous

- Information provided in text boxes alongside each other across the page, such as simulations of advertisements: reformat these one below the other as plain text paragraphs with appropriate headings and heading styles; add Figure or Extract numbers if it would help when referring to them in the question text.

- References in question papers to associated case studies or other accompanying document files should specify the file name.

5.27 Capital letters and typeforms

Screen readers sometimes indicate capital letters (by pitch change, a beep or speaking the word "caps") only when the user steps through a document a letter at a time (or when typing). This would not, of course, be the preferred method of reading a document. The user would usually read a word, a line or a sentence at a time. They would only step one letter at a time if they knew they needed to examine a particular word or passage for capital letters or some other characteristic.

Similarly typeform characteristics such as bold, italic and underline will only be indicated by the screen reader if an option to do so is selected in the settings or preferences. Listening to a document where every line is described as 'bold' or 'not bold' would be tedious and would possibly lead to ambiguity, for example:

'the **bold** hero ...'

might end up being spoken as:
"the bold bold no bold hero ..."

The significance of these features to a modifier is not to do with the exact features offered by particular screen readers. It is rather that the modifier cannot assume that aspects of the text such as

capitals and typeforms to indicate emphasis will be apparent to a screen reader user from the screen reader speech, unless the reader knows they need to look for them.

One way to approach this would be for the modifier to insert text, warning the candidate that they should expect check for certain features within the following passage that will enable them to answer the question. The candidate could respond by altering their screen reader settings temporarily, or choose a different method of moving through the text, in smaller steps, so that they can identify the required features.

An alternative approach might be to achieve emphasis by some other means. For example proper names, book titles etc. that are in italics in the original paper might be better enclosed in quotes. Similarly technical terms that are in bold in the original might also be enclosed in quotes. Titles and section headings do not need to be in bold, italics or underlined as long as Heading Styles are used, as described earlier. Column and row headings in tables do not usually need to be emphasised, even if they are in bold in the original, as long as it is clear from the context which cells contain headings and which contain data.

It may be necessary to agree with the individual awarding body and on each occasion how candidates are instructed in each different paper.

5.28 Modification of case studies and resource booklets

Modification of the content of case studies for use with a screen reader is mostly covered by the same considerations as given above for exam questions. A particular format that might not occur in the questions is numbering of the lines in long text passages.

5.29 Extended text extracts with numbered lines

Extended text passages in Case Studies and Resource Booklets are sometimes numbered in steps of 5, with the number placed in the right margin. In a brief trial at least one screen reader does not speak line numbers in a specimen exam paper in PDF format, whilst reading line by line.

It is first necessary to decide whether to retain line numbers at all. If they are referred to explicitly in particular questions then they should be retained, unless the questions can be re-phrased without reference to line numbers without loss of clarity.

If line numbers are retained then any change of numbering from the original file that occurs at the production stage of the screen reader file should be taken into account and changed accordingly in the questions. It is recommended that a scheme something like the following is employed.

- Place the line numbers at the start of every 5th line, or possibly every 10th line if the line numbers are considered too intrusive when listening to the text.

- Include the word 'line', possibly in square brackets or distinguished from the main text in some other way, e.g. [line 15]. In this way the modifier can be sure that the line numbers are explicit to the candidate and don't have to be searched for in a location that is not clear to the candidate, such as the left or right margins.

- It will be necessary to put a line break at the end of the previous line, if there isn't already a line break or paragraph break, to ensure that the text is not re-formatted, causing the position of the [line ...] label to move.

For example (the outline box is only included for clarity in this document):

Once upon a time, on Christmas Eve, old Scrooge was busy counting money. It was cold, bleak, foggy weather. It was only just after three o'clock in the afternoon but it was dark already. The door of Scrooge's office was open so that he could keep an eye on his clerk, Bob Cratchit. He was in a cold dark
[line 5] room copying letters by hand. His fire was so small that it looked like a single coal, but he could not make it larger because Scrooge kept the coal in his room. The clerk tried to warm himself in front of his candle.

"A Merry Christmas, uncle!" a cheerful voice cried. It was the voice of Scrooge's nephew, Fred.

[line 10] "Bah!" Scrooge replied. "Humbug!"

His nephew was so hot from walking in the fog and frost that his face glowed red and his eyes sparkled.

5.30 Subject specific guidance

There might be types of material or question formats that appear specifically in particular curriculum subjects. The reader seeking advice is referred initially to the subject specific sections for Braille Papers and Large Print Papers in this document. The Large Print section already refers to the Braille section because there is adequate similarity in the principles involved.

Where it is recommended in the guidance that materials are placed separately in a passages booklet or other booklet it will probably be appropriate to put the material in a separate file. This could be either a file for each passage, or a file containing all of the passages, with headings and styles chosen to aid navigation by a screen reader user.

6   Section E - Procedures For Agencies

6.1   Security

Security when dealing with examination papers is essential. Print and braille examination material must be locked away overnight and at all other times when not being worked on so that no unauthorised person has access to it. All such material must be locked away in a place of high security, ideally a strong safe. If a suitable safe is not available, a non-portable, lockable, reinforced metal cabinet or other similar container must be used. The safe or container must be in securely locked accommodation with access restricted to two or three keyholders.

The Awarding Body must be informed immediately if the security of the question papers or confidential ancillary instructions or material is put at risk by fire, theft, loss, damage, unauthorised disclosure or any other circumstances. All other materials associated with the examination including any unwanted braille (e.g. faulty pages or extra copies) must also be locked away securely until the date of the examination has passed or else be destroyed. It must not be disposed of in any other way.

When working on computer, examination material stored on removable storage such as USB memory sticks must be locked away securely just as for print and braille copies. Hard discs should not be used for storage unless an effective security protection system is used so as to prevent access when the computer is unattended. Electronic files should not be transferred on to a home computer or stored on any type of 'cloud' storage.

This work must not be discussed with any unauthorised person: even letting it be known that examinations are dealt with in the organisation's premises could be a security risk.

Staff preparing examination material are required to declare an interest to the Awarding Body if they themselves are attempting the examinations or have relatives who will be attempting the examinations. The Awarding Body will decide whether the member of staff should be involved in the production of examination material.

6.2 Proofreading

All examination material must be carefully proofread to ensure accuracy.

It is essential that proofreaders are fully aware of the instructions for braille transcription or large print production as appropriate (given in Sections B and C of this document), and have knowledge of any specialist codes used.

It is also important that all finished exams, in all formats, are proofread by individuals trained in judging the quality and accuracy of each format. Even the most experienced tactile braille reader will miss small inaccuracies if they are not trained to be specifically reading the braille for quality. The braille papers must be checked for accuracy against the original paper, for accuracy of the braille code, and for the quality of the finished document. Tactile diagrams must be checked for the accuracy of the diagram itself and of any braille code used in labels. They must also be checked for tactile clarity and quality. Large print papers should be proofread for accuracy against the original paper and for the clarity and quality of the accessible graphics. Electronic files, including those for use with screen reader software should also be checked, in particular, to ensure that they are compatible with a range of screen reader software. Further information on checking electronic files is given in the UKAAF Accessible PDF guidance.

6.3   Checking and dispatch of braille papers

Check:

- That all details relating to the examination are correct on the front cover of the question paper, e.g. where appropriate, the examination paper number, syllabus, component codes, subject title and Awarding Body, and that these details correspond to those stated on the print copy.

- The braille version is marked clearly on the outer packaging of the exam paper, i.e. uncontracted or contracted, SEB or UEB.

- To see if there are any diagrams or other material to be included, and ensure that figure references in the text correspond to those on the diagrams.

- That the line references to prose passages in questions have been correctly amended where the line numbers in the braille version of the passage do not correspond with those in the print version.

- The page information lines throughout the paper and on any diagram sheets to make sure that it is the correct examination paper all the way through.

- The page numbers, including diagram sheets, to make sure that all the pages are there, and check that the paper ends with 12 colons.

- Each page for the quality of the braille, e.g. that the dots have been embossed satisfactorily and have not been squashed, and that the cells have not been embossed out of alignment.

- That the instructions for binding the diagrams have been followed and that any additional copies etc. are present. Make sure that the diagrams have been thermoformed crisply (where appropriate) and that there are no creases or obvious signs of bits falling off the master, etc.

There may be other special instructions concerning the collation of separate sections. Make sure that these have been followed.

Any faults must be corrected, i.e. the examination paper should be returned to transcription or for re-embossing, as appropriate. **Examination papers sent out must be 100% correct**.

When an examination paper has been checked and is correct a print cover must be added to each braille document showing the Awarding Body's name, the subject, the syllabus title, the component code and the paper number. This will enable the Awarding Body staff to identify the paper, as they will generally not read braille themselves.

When sending the completed braille or large print paper(s) to the Awarding Body or Centre, you should have agreed what should be included in the package. Ensure all of those items are included and enclose a delivery note as necessary. Examination papers must be sent by whichever method has been agreed with the Awarding Body.

When an examination paper is sent to the Awarding Body, or on behalf of the Awarding Body, you must always ensure that the Awarding Body is alerted to the dispatch.

6.4   Checking and dispatch of large print papers

Check:

- That all details relating to the examination are correct on the front cover of the question paper, e.g. where appropriate, the examination paper number, syllabus, component codes, subject title and Awarding Body, and that these details correspond to those stated on the print copy.

- To see if there are any diagrams or other material to be included separately.

- To make sure that it is the correct examination paper all the way through.

- The page numbers to make sure that all the pages are there.

- Each page for the quality of the print, and that each page is properly aligned.

- That any special instructions for binding the diagrams have been followed, and that any additional copies etc. are present.

There may be other special instructions concerning the collation of separate sections. Make sure that these have been followed.

Any faults must be corrected, i.e. mis-aligned pages should be re-printed and replaced etc., as appropriate. **Examination papers sent out must be 100% correct**.

When sending the completed braille or large print paper(s) to the Awarding Body or Centre, you should have agreed what should be included in the package. Ensure all of those items are included and enclose a delivery note as necessary. Examination papers must be sent by whichever method has been agreed with the Awarding Body.

When an examination paper is sent to the Awarding Body, or on behalf of the Awarding Body, you must always ensure that the Awarding Body is alerted to the dispatch.

7 Your feedback is welcome

We would welcome your views on this guidance, any suggestions for additions, or case studies of how this guidance has helped you. You might like to share your experience in an article in our magazine 'Format Matters'.

You can phone, email or write to us - our details are at the back, or use the feedback form on our website www.ukaaf.org.

If you find UKAAF's guidance valuable, please encourage others to join by visiting our website.

Document reference information

Document title	General and Vocational Examinations for Candidates with Visual Impairment: Best Practice Guidance for Modifiers and Producers
Publisher	UK Association for Accessible Formats (UKAAF)
Document ref	G020
Version number	2.3
Publication date	May 2015
Document purpose	Good practice guidance for modifiers and producers of examinations for candidates with visual impairment. Published in collaboration with JCQ and awarding bodies.
Primary contributors	UKAAF Exams subject group including Rory Cobb and Stephen Phippen (RNIB), Sue Day (Connect), Vernon Webb (QTVI Consultant), Sharon Williams (Pia)
Board approval	TBC
Citation guidance	General and Vocational Examinations for Candidates with Visual Impairment: Best Practice Guidance for Modifiers and Producers (2017) UK Association for Accessible Formats. Ref: G020
Acknowledgements	With thanks to all our reviewers for their valuable comments and to the original authors in RNIB and the VIEW committees
Superseded documents	RNIB's Best Practice Guidance

UK Association for Accessible Formats (UKAAF)

Contact details

Tel: 0345 60 85223
Email: enquiries@ukaaf.org
Web: www.ukaaf.org

Registered address

UKAAF
c/o Pia
Unit 42 John Baker Close
Llantarnam Industrial Park
Cwmbrân
NP44 3AW

President: Lord Low of Dalston CBE
Registered charity number: 1126966
Registered as a company in England and Wales number: 6748900