

Commentary on candidate evidence

Candidate 1

The evidence for this candidate has achieved the following marks for each question of this course assessment component.

Question 1a

The candidate was awarded **0 marks** because they did not use the correct command words throughout the answer, eg '*Constrain*' is not a command.

Question 1b (i)

The candidate was awarded **0 marks** because '*Angled plan view*' is not an acceptable answer.

Question 1b (ii)

The candidate was awarded **1 mark** because '*Full section Y-Y*' is an acceptable answer and their response included an accurate description of the purpose.

Question 1b (iii)

The candidate was awarded **1 mark** because they described the use and purpose of an angle dimension and a tolerance.

Question 1c (i)

The candidate was awarded **1 mark** because they made reference to the type of graphic in the supplementary sheets and correctly identified that the redesign can be updated.

Question 1c (ii)

The candidate was awarded **1 mark** because they have correctly identified that the file is used for '*3D printing*' and that this can be used in the redesign of the seat.

Question 1c (iii)

The candidate was awarded **0 marks** because whilst they have correctly identified the file type, the explanation of how this can be used in the redesign does not offer any specific editing techniques.

Question 1d (i)

The candidate was awarded **1 mark** because the explanation of the texture mapping process is correct.

Question 1d (ii)

The candidate was awarded **0 marks** because they have described '*reflections*' without demonstrating how the material properties would affect this and not the '*light source*'.

Question 1d (iii)

The candidate was awarded **1 mark** because their explanation of the bump mapping process is correct.

Question 1e (i)

The candidate was awarded **1 mark** because .AVI is an acceptable answer.

Question 1e (ii)

The candidate was awarded **1 mark** because .AI is an acceptable answer.

Question 1e (iii)

The candidate was awarded **3 marks** because all three explanations provided are appropriate considerations:

- ◆ all colours CMYK (**1 mark**)
- ◆ fonts converted to vectors (**1 mark**)
- ◆ bleed/crop marks have been identified (**1 mark**)

Question 2a (i)

The candidate was awarded **2 marks** because the two explanations provided are appropriate advantages:

- ◆ analysis for ergonomic purposes (ease of movement) (**1 mark**)
- ◆ data is stored and can be used to test again for comparisons (**1 mark**)

Simply stating that motion capture is '*realistic*' would not directly affect the manufacture. Again '*complex*' animations can be created using other technologies.

Question 2a (ii)

The candidate was awarded **3 marks** because they have described three correct disadvantages of the technology for the manufacturer.

- ◆ '*Large amounts of data*' which can be time consuming to process **(1 mark)**
- ◆ '*expensive specialist software*' **(1 mark)**
- ◆ '*post production*' **(1 mark)**

Question 2b (i)

The candidate was awarded **1 mark** because they were only able to describe the extrusion of the nozzle.

The candidate produced a good plan of how the model should be created, however, they used incorrect 3D CAD terms, eg '*Extrude... remove*' and '*extrude inwards*' are not acceptable terms.

Question 2b (ii)

The candidate was awarded **2 marks** because they correctly used the extrude and loft method **(1 mark)**. The candidate also included the loft in the model by using concentric shapes to create a thickness prior to applying a 3D modelling technique **(1 mark)**.

Question 2c

The candidate was awarded **4 marks** because they have correctly identified four requirements for FEA simulation:

- ◆ selecting materials **(1 mark)**
- ◆ fixing points **(1 mark)**
- ◆ magnitude and direction **(1 mark)**
- ◆ type of stress (infers static or dynamic) **(1 mark)**

Question 2d

The candidate was awarded **2 marks** because they have correctly identified and explained the use of two pieces of information which would be included in the given orthographic views:

- ◆ dimensions (with reference to manufacturing) **(1 mark)**
- ◆ tolerances (with reference to its function) **(1 mark)**

- ◆ detail view (duplication of dimensioning) **(0 marks)**
- ◆ wall thickness (duplication of dimensioning) **(0 marks)**
- ◆ material choice **(0 marks)**

Question 3a

The candidate was awarded **3 marks** because the following elements and principles were identified and explained:

- ◆ line used for separating the text in the document **(1 mark)**
- ◆ white space and its impact **(1 mark)**
- ◆ colour choice and how this connects the brand **(1 mark)**

No marks were awarded for texture to create depth as this is incorrect.

Question 3b

The candidate was awarded **2 marks** because their answers address maintaining consistency and demonstrate good knowledge of digital and printed media, for example:

- ◆ colour spaces **(1 mark)**
- ◆ consistent fonts **(1 mark)**

No marks were awarded for size of the logo because the candidate did not mention how this is done, for example, through a vector.

Question 3c

The candidate was awarded **4 marks** because they described four valid requirements when producing a camera-ready copy:

- ◆ vector fonts **(1 mark)**
- ◆ CMYK **(1 mark)**
- ◆ bleeds set with the appropriate size given **(1 mark)**
- ◆ crop marks and registration marks **(1 mark)**

Question 3d

The candidate was awarded **0 marks** because '*laser printing*' is not an acceptable printing process.

Question 3e

The candidate was awarded **3 marks** because they have attempted to describe the size of the numbers as bigger in bot labels which is incorrect. No further

marks can be awarded for the last point regarding layout as '*repetition of shape*' has already been awarded a mark.

- ◆ contrast using colour **(1 mark)**
- ◆ colour used to allow the text to '*stand out*' **(1 mark)**
- ◆ repetition of shape **(1 mark)**

Question 4a

The candidate was awarded **6 marks** because the three surveys are correct and the explanation demonstrates understanding for each of the following:

- ◆ topographical **(1 mark)**
- ◆ discussed land features such as trees and slopes **(1 mark)**

- ◆ drainage **(1 mark)**
- ◆ discussed flood risks **(1 mark)**

- ◆ underground **(1 mark)**
- ◆ discussed rock and soil and the impact on foundations **(1 mark)**

Question 4b (i)

The candidate was awarded **2 marks** because the use of 3D printing is correct **(1 mark)**. A further mark was awarded for the description regarding '*extracting... dimensions*' for further scaled models **(1 mark)**.

Question 4b (ii)

The candidate was awarded **1 mark** because they have only described the use of FEA and structural load to determine choice of materials.

Question 4b (iii)

The candidate was awarded **2 marks** because they have discussed information on tolerances and information regarding materials **(1 mark)** and how the model should be assembled **(1 mark)**.

Question 5a

The candidate was awarded **2 marks** because they have described the following:

- ◆ interactive vrml to engage the viewer **(1 mark)**
- ◆ up-to-date information **(1 mark)**

Question 5b (i)

The candidate was awarded **2 marks** because they have explained the following:

- ◆ laying out links in rows (grid structure) **(1 mark)**
- ◆ repetition of shapes (infers visual hierarchy) **(1 mark)**

Question 5b (ii)

The candidate was awarded **2 marks** because they have explained the following:

- ◆ *'use of arrows'* navigational cues **(1 mark)**
- ◆ *'clear boxes'* infers generous space **(1 mark)**.

'use of identically shaped boxes' is a duplication from Question 5bi **(0 marks)**.

Question 5biii

The candidate was awarded **1 mark** because they identified and explained the use of JPEG images.

Candidate 2

The evidence for this candidate has achieved the following marks for each question of this course assessment component.

Question 1a

The candidate was awarded **3 marks** because the correct terminology was used and the diagrams clearly assisted in this answer.

- ◆ mate command used (**1 mark**)
- ◆ tangential constraint (**1 mark**)
- ◆ offset, where sketch clearly indicates direction (**1 mark**)

No further marks can be awarded as the candidate has not mentioned use of 90 degree rotation.

Question 1b (i)

The candidate was awarded **1 mark** because '*Auxiliary View*' is an acceptable answer. The answer correctly describes the purpose.

Question 1b (ii)

The candidate was awarded **1 mark** because '*Sectional View*' is an acceptable answer. The answer correctly describes the purpose.

Question 1b (iii)

The candidate was awarded **1 mark** because '*Angle with Symmetric Tolerance*' is an acceptable answer. The answer correctly describes the purpose.

Question 1c (i)

The candidate was awarded **1 mark** because they provided an accurate description of the file type and the explanation of how dimensions can be edited in the redesign is correct.

Question 1c (ii)

The candidate was awarded **0 marks** because the answer correctly identifies the file type, however they have not illustrated that the file is used in rapid prototyping a physical model for testing.

Question 1c (iii)

The candidate was awarded **1 mark** because they have correctly identified that the file type is for 3D modelling and that this can be used to 'assess' the design and '*plan improvements*'.

Question 1d (i)

The candidate was awarded **1 mark** because the explanation of the texture mapping process is correct.

Question 1d (ii)

The candidate was awarded **1 mark** because their answer illustrates how 'Specularity' can be added and they have explained its function.

Question 1d (iii)

The candidate was awarded **1 mark** because their answer illustrates the bump mapping process and they have explained its function.

Question 1e (i)

The candidate was awarded **1 mark** because .WMV is an acceptable answer.

Question 1e (ii)

The candidate was awarded **1 mark** because .AI is an acceptable answer.

Question 1e (iii)

The candidate was awarded **3 marks** because all three explanations are appropriate considerations:

- ◆ explanation of the use of bleed **(1 mark)**
- ◆ fonts and images are converted to vector **(1 mark)**
- ◆ all images at 300dpi **(1 mark)**

Question 2a (i)

The candidate was awarded **3 marks** because all three descriptions relate to the manufacturer:

- ◆ tracking a person's movement where data can be analysed **(1 mark)**
- ◆ using the technology for promotional purposes **(1 mark)**
- ◆ analysing ergonomic data for future alterations (ease of movement) **(1 mark)**

Question 2a (ii)

The candidate was awarded **2 marks** because they have correctly described two disadvantages of the technology:

- ◆ expensive software **(1 mark)**
- ◆ “*Not all people interact with the product the same way*” **(1 mark)**

No marks awarded for ‘*requires the physical product*’ as this is not a relevant answer.

Question 2b (i)

The candidate was awarded **2 marks** because they have correctly:

- ◆ illustrated how to shell the model, removing faces **(1 mark)**
- ◆ identified fillets **(1 mark)**

The candidate has used the loft command incorrectly. and achamfer is not the correct technique to achieve the slope therefore no further marks can be awarded here..

Question 2b (ii)

The candidate was awarded **2 marks** because they have clearly indicated how loft would be used in this model **(1 mark)** and correctly used shell, removing faces **(1 mark)**.

Question 2c

The candidate was awarded **2 marks** because they have correctly identified two requirements for FEA simulation:

- ◆ materials defined **(1 mark)**
- ◆ force applied to an area **(1 mark)**

0 marks awarded for ‘*displacement, Von Mises Stress etc*’ because selecting the type of test is unnecessary before simulation.

Question 2d

The candidate was awarded **3 marks** because they have correctly identified and explained the use of three pieces of information which would be included in the given orthographic views:

- ◆ surface texture **(1 mark)**
- ◆ tolerances (and its purpose) **(1 mark)**
- ◆ dimensions (with reference to function) **(1 mark)**

Question 3a

The candidate was awarded **4 marks** because the following elements and principles were identified and explained:

- ◆ unity, through use of the colour red **(1 mark)**
- ◆ line to help organise the document **(1 mark)**
- ◆ repetition of shape **(1 mark)**
- ◆ white space and its function **(1 mark)**

Question 3b

The candidate was awarded **2 marks** because the answers address maintaining consistency through:

- ◆ colour spaces **(1 mark)**
- ◆ demonstrating good knowledge of digital and printed media (flexography etc) **(1 mark)**

Mentioning pantone is a duplication of the colour choice answer and would not be awarded a mark in this case.

Question 3c

The candidate was awarded **4 marks** because they described four valid requirements when producing a camera-ready copy:

- ◆ filetype conversion (pdf) **(1 mark)**
- ◆ registration marks **(1 mark)**
- ◆ fonts converted to vector format **(1 mark)**
- ◆ image resolution 300dpi **(1 mark)**

Question 3d

The candidate was awarded **1 mark** because Offset lithography is a correct printing process.

Question 3e

The candidate was awarded **3 marks** because two of the explanations addressed colour to attract attention (colour coding). The other techniques are relevant to the specific images:

- ◆ repetition of shape **(1 mark)**
- ◆ colour coding **(1 mark)**
- ◆ use of reverse text **(1 mark)**

Question 4a

The candidate was awarded **4 marks** because one of the surveys is correct — topographical (**1 mark**) and the description of drainage/contours demonstrates good understanding (**1 mark**).

The follow-on rule has been applied to the other two incorrectly named surveys as the description of each demonstrate that the candidate knows how to describe a survey but cannot remember the correct name.

- ◆ arial survey (**0 marks**)
- ◆ description of a feature survey – existing structures (**1 mark**)
- ◆ geological survey (**0 marks**)
- ◆ description of an underground survey – materials, enough support for construction (**1 mark**)

Question 4b (i)

The candidate was awarded **0 marks** because they have confused the model maker with a structural engineer. Even though the candidate mentioned 3D printing, the context was for structural integrity and durability. They have not explained the role of a model maker.

Question 4b (ii)

The candidate was awarded **2 marks** because they have identified the use of FEA for structural force analysis (**1 mark**) and CFD for how the model would function in windy conditions (**1 mark**).

Question 4b (iii)

The candidate was awarded **2 marks** because they have discussed what would be necessary for construction ‘*scaffolding*’ and pre-assembly (**1 mark**). They have identified that construction trades can illustrate how certain ‘*parts of the design fit together*’ (**1 mark**).

Question 5a

The candidate was awarded **2 marks** because they have described the following points:

- ◆ ‘*reaching a different audience*’ infers reaching large numbers (**1 mark**)
- ◆ ‘*Interactive screens*’ used to ‘*engage*’ (**1 mark**).

The use of interactive videos or VRML is a duplication of the ‘*interactive*’ statement therefore no further marks can be awarded.

Question 5b (i)

The candidate was awarded **3 marks** because they have explained the following:

- ◆ *'White space'* (1 mark)
- ◆ Use of balance (for hierarchy) (1 mark)
- ◆ Large images in relation to text (infers proportion) (1 mark)

Question 5b (ii)

The candidate was awarded **3 marks** because they have explained the following:

- ◆ large buttons (infers a reduction of clutter) (1 mark)
- ◆ arrows create visual cues (1 mark)
- ◆ generous white space used (1 mark)

Question 5b (iii)

The candidate was awarded **3 marks** because they have explained the following:

- ◆ identification of vector filetypes *'.AI'* (1 mark)
- ◆ non-platform dependant filetypes *'.PNG'* (1 mark)
- ◆ *'Printable fact sheets'* (1 mark)

Candidate 3

The evidence for this candidate has achieved the following marks for each question of this course assessment component.

Question 1a

The candidate was awarded **0 marks** because '*constrained*' is not a command.

Question 1b (i)

The candidate was awarded **0 marks** because '*isometric view*' is incorrect.

Question 1b (ii)

The candidate was awarded **0 marks** because the wrong view has been answered. (The function of a tolerance was not clearly answered and would have received 0 marks, had the candidate responded in Question 1biii).

Question 1b (iii)

The candidate was awarded **0 marks** because the wrong view has been answered. (The function of a section in this instance would have been awarded 0 marks, had the candidate responded in Question 1bii).

Question 1c (i)

The candidate was awarded **0 marks** because the answer does not explain the features or information about the filetype in enough detail.

Question 1c (ii)

The candidate was awarded **1 mark** because they have identified that the file type is used for '*digital prototyping*' and that this can be used for testing. This answer infers that testing will lead to changes.

Question 1c (iii)

The candidate was awarded **0 marks** because whilst they have correctly mentioned a '*3 Dimensional image/view*', they have not demonstrated how this can be used in the redesign of the seat.

Question 1d (i)

The candidate was awarded **0 marks** because only texture mapping would be accepted as a technique.

Question 1d (ii)

The candidate was awarded **0 marks** because '*surface mapping*' is not an acceptable technique.

Question 1d (iii)

The candidate was awarded **1 mark** because they have correctly identified '*Bump-mapping*' and given a detailed explanation of its use.

Question 1e (i)

The candidate was awarded **0 marks** because no file type is given.

Question 1e (ii)

The candidate was awarded **0 marks** because Bitmap is incorrect.

Question 1e (iii)

The candidate was awarded **0 marks** because they have listed considerations rather than explaining them. For example, simply mentioning '*bleed*' without an explanation would not be enough to gain a mark without mentioning what it is used for and there is no mention of why the substrate choice is important.

Question 2a (i)

The candidate was awarded **0 marks** because they have responded without alluding to how the technology would be used by the manufacturer or in the case of '*see where the product works and does not work well*', is not detailed enough to merit a mark.

Question 2a (ii)

The candidate was awarded **0 marks** because they have incorrectly indicated that the method is time consuming, which is not always true. The candidate has indicated that the technology will not demonstrate FEA which is not relevant for this question.

Question 2b (i)

The candidate was awarded **0 marks** because loft has not been used correctly to create the model. To use shell, the candidate should have indicated which faces were to be removed. Fillet edges was not awarded a mark as it is not clearly indicated which edges are to be filleted.

Question 2b (ii)

The candidate was awarded **0 marks** because they have not made it clear how the loft is to be produced. The candidate should have indicated that the shell must include removing faces.

Question 2c

The candidate was awarded **3 marks** because they have correctly identified three requirements for FEA simulation:

- ◆ material choice **(1 mark)**
- ◆ dimensions (not required for the simulation) **(0 marks)**
- ◆ location of pressure **(1 mark)**
- ◆ force of pressure (infers scale of units) **(1 mark)**

Question 2d

The candidate was awarded **0 marks** because they have attempted only to describe features contained in the drawing rather than explaining how this would be relevant for manufacturing.

Question 3a

The candidate was awarded **4 marks** because the following elements and principles were identified and explained:

- ◆ line to emphasise the slogan **(1 mark)**
- ◆ unity, with regard to colour choice **(1 mark)**
- ◆ depth, created through the use of the dropped shadow **(1 mark)**
- ◆ alignment and how it has assisted the structure **(1 mark)**

Question 3b

The candidate was awarded **0 marks** because the effect on the brand has not been identified throughout the answer. The three bullet points in this response all relate to colour choices and have not identified any specific printed or digital media.

Question 3c

The candidate was awarded **1 mark** for registration marks however the rest of the answer was vague and lacked the depth of knowledge necessary to gain marks.

Although bleed has been specified, no recommended value has been given (**0 marks**).

- ◆ crop marks (this mark has already been given under the maximum 1 mark rule for registration marks) (**0 marks**)
- ◆ paper size (**0 marks**)
- ◆ colour match boxes (not a correct term and this mark has already been given under the maximum 1 mark rule for registration marks) (**0 marks**)

Question 3d

The candidate was awarded **1 mark** because Offset lithography is the correct printing process.

Question 3e

The candidate was awarded **4 marks** because all explanations of the graphic techniques are relevant to the specific images:

- ◆ white outline to separate the information (grid structure) (**1 mark**)
- ◆ bold font (**1 mark**)
- ◆ colour coding (**1 mark**)
- ◆ unity has been created (with justification) (**1 mark**)

Question 4a

The candidate was awarded **2 marks** because they have correctly identified 'underground survey' (**1 mark**) and their description shows that they understand the purpose of the survey (**1 mark**).

Question 4b (i)

The candidate was awarded **1 mark** because they only provided one description — use of dimensions to produce a scaled model.

Question 4b (ii)

The candidate was awarded **1 mark** because only one description was offered — FEA for structural analysis.

Question 4b (iii)

The candidate was awarded **1 mark** because only one description was offered — material lists for construction.

Question 5a

The candidate was awarded **2 marks** because they have described the following:

- ◆ ability to reach a wider audience (*'different languages'*) **(1 mark)**
- ◆ identifying a *'physical relationship between customer and company'* infers online behaviour **(1 mark)**

No marks were awarded for the following:

- ◆ *'tv adverts'* discusses a wider audience which has already been awarded a mark **(0 marks)**
- ◆ *'being able to view more than one page at a time'* is not an advantage over printed media **(0 marks)**

Question 5b (i)

The candidate was awarded **3 marks** because they have explained the following:

- ◆ *'clearly and orderly'* infers grid structure **(1 mark)**
- ◆ *'equal spacing'* **(1 mark)**
- ◆ text alignment **(1 mark)**

Question 5b (ii)

The candidate was awarded **3 marks** because they have explained the following:

- ◆ dropdown menus **(1 mark)**
- ◆ use of white space **(1 mark)**
- ◆ *'Each section...clearly identifiable'* (visual cues) **(1 mark)**

Question 5b (iii)

The candidate was awarded **0 marks** because they have not been specific when referring to file types used.

Candidate 4

The evidence for this candidate has achieved the following marks for each question of this course assessment component.

Question 1a

The candidate was awarded **1 mark** because the mate command was used

No further marks awarded because the candidate:

- ◆ did not make use of a 90 degree rotate (**0 marks**)
- ◆ did not make use of the tangent constraint (**0 marks**)
- ◆ used offset but the direction is unclear from the answer (**0 marks**)

Question 1b (i)

The candidate was awarded **0 marks** because '*True Shape*' is incorrect.

Question 1b (ii)

The candidate was awarded **1 mark** because '*Sectional*' is an acceptable answer. The answer correctly describes the purpose.

Question 1b (iii)

The candidate was awarded **1 mark** because '*Angle with tolerance*' is an acceptable answer. The answer correctly describes the purpose.

Question 1c (i)

The candidate was awarded **0 marks** because the answer describes a drawing format. The candidate has described '*FEA/stress analysis*' which can be used to inform edits.

Question 1c (ii)

The candidate was awarded **1 mark** because they have correctly identified the file type and shown that it can be used to make a physical model for testing.

Question 1c (iii)

The candidate was awarded **1 mark** because they have identified that this is a 3D modelling file type and that it can be used to aesthetically change the design.

Question 1d (i)

The candidate was awarded **1 mark** because the explanation of the texture mapping process is correct.

Question 1d (ii)

The candidate was awarded **1 mark** because the answer illustrates how '*applied lighting*' can be used and an explanation of its function.

Question 1d (iii)

The candidate was awarded **1 mark** because their explanation of the bump mapping process is correct.

Question 1e (i)

The candidate was awarded **1 mark** because MPEG is an acceptable answer.

Question 1e (ii)

The candidate was awarded **0 marks** because GIF is incorrect.

Question 1e (iii)

The candidate was awarded **3 marks** because all three explanations are appropriate considerations:

- ◆ all colours CMYK (**1 mark**)
- ◆ fonts and images are embedded (**1 mark**)
- ◆ bleed/crop marks have been identified (**1 mark**)

Question 2a (i)

The candidate was awarded **3 marks** because all three responses were appropriate when describing this technology:

- ◆ '*realistic movement...capturing a human*', infers recording position and movement of parts (**1 mark**)
- ◆ '*view the ergonomics*', infers capturing human data for improving the design (**1 mark**)
- ◆ '*Used in advertising*' (**1 mark**)

Question 2a (ii)

The candidate was awarded **1 mark** because they alluded to the expense of the software and inherent need for training.

Question 2b (i)

The candidate was awarded **3 marks** because they have correctly described the following techniques required to make the model:

- ◆ extrude the cylinder **(1 mark)**
- ◆ shell, removing faces **(1 mark)**
- ◆ fillet correctly indicated **(1 mark)**

The loft command has not been used correctly **(0 marks)**.

Question 2b (ii)

The candidate was awarded **2 marks** because they have correctly described the following techniques required to make the model:

- ◆ loft **(1 mark)**
- ◆ shell, removing faces **(1 mark)**

Question 2c

The candidate was awarded **2 marks** because they have correctly identified two requirements for FEA simulation:

- ◆ '*external forces*' set **(1 mark)**
- ◆ material selection **(1 mark)**.

No marks were awarded for the following:

- ◆ '*Any displacement ... set*' is an unclear answer **(0 marks)**
- ◆ '*All forces are given a strength*' is an unclear answer **(0 marks)**

Question 2d

The candidate was awarded **3 marks** because they have correctly identified and explained the use of three pieces of information which would be included in the given orthographic views:

- ◆ tolerances **(1 mark)**
- ◆ machining symbol **(1 mark)**
- ◆ dimensioning (making reference to the function) **(1 mark)**

Question 3a

The candidate was awarded **4 marks** because the following elements and principles were identified and explained:

- ◆ unity with the use of red **(1 mark)**
- ◆ depth through overlapping elements **(1 mark)**
- ◆ white space and its function in the document **(1 mark)**
- ◆ rhythm created through colour **(1 mark)**

Question 3b

The candidate was awarded **3 marks** because their response addressed maintaining consistency and demonstrated good knowledge of digital and printed media.

- ◆ substrate choice **(1 mark)**
- ◆ printing method **(1 mark)**
- ◆ RGB and CMYK colour spaces **(1 mark)**

Question 3c

The candidate was awarded **3 marks** because they described three valid requirements when producing a camera-ready copy:

- ◆ fonts are embedded **(1 mark)**
- ◆ document is converted to suitable file type (PDF) **(1 mark)**
- ◆ bleed identified with reference to ensuring that it is set to an appropriate value **(1 mark)**

Question 3d

The candidate was awarded **1 mark** because '*roto-gravure*' is a correct printing process.

Question 3e

The candidate was awarded **4 marks** because all explanations of the graphic techniques are relevant to the specific images.

- ◆ sans serif for easy reading **(1 mark)**
- ◆ contrasting colours (infers adding interest) **(1 mark)**
- ◆ use of consistent font creating rhythm **(1 mark)**
- ◆ font size for key information **(1 mark)**

Question 4a

The candidate was awarded **6 marks** because the three surveys are correct and the explanations demonstrate understanding for each:

- ◆ feature **(1 mark)**
- ◆ road access and other existing structures **(1 mark)**

- ◆ topographical **(1 mark)**
- ◆ discussed land features such as 'rock outcrops' **(1 mark)**

- ◆ underground **(1 mark)**
- ◆ identifying pipes and cables as well as '*unstable land*' **(1 mark)**

Question 4b (i)

The candidate was awarded **1 mark** because they have discussed why a 3D model might be useful but the second reason of '*destructive testing*' is not a valid answer.

Question 4b (ii)

The candidate was awarded **2 marks** because they have described the use of FEA and CFD with justifications for each.

Question 4b (iii)

The candidate was awarded **2 marks** because they have identified the need for required materials and to establish how the construction will look once assembled.

Question 5a

The candidate was awarded **2 marks** because they have described the following:

- ◆ advert eye-catching through 'pop-ups' **(1 mark)**
- ◆ reaching a larger audience **(1 mark)**
- ◆ accessibility (is not always true compared with printed media) **(0 marks)**

No marks awarded for digital media seen as '*green*'.

Question 5b (i)

The candidate was awarded **2 marks** because they have explained the following:

- ◆ clear simple sections (infers grid structure) **(1 mark)**
- ◆ keeping similar information together (infers visual hierarchy) **(1 mark)**

Question 5b (ii)

The candidate was awarded **2 marks** because they have explained the following:

- ◆ '*Easy and compact*' when describing dropdown menus (**1 mark**)
- ◆ Colour use for making connections (infers visual cues to guide the audience) (**1 mark**)

Question 5b (iii)

The candidate was awarded **1 mark** because they have explained that fact sheets are printable.