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)**