Commentary on candidate evidence

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

Candidate 1

The candidate was awarded a total of **53/80 marks** as follows:

Question 1(a)

The candidate was awarded **2 marks** because they have explained that repeated use of the logo creates a 'strong brand identity' (1 mark) and the similar design across the product range creates 'unity' (1 mark).

Question 1(b)

The candidate was awarded **1 mark** because they have described that negative space has created the illusion of mountains in the bottom right corner of the logo. (1 mark). The candidate's other points refer to the use of shape and silhouette and not negative space.

Question 1c

The candidate was awarded **6 marks** because they have:

♦ identified the importance of CMYK to RGB colour spaces (1 mark) and explained that colour conversion is required between printed and digital media (1 mark)
♦ identified the importance of file types (1 mark) and that the text may need to be converted to a vector for print applications (1 mark)
♦ identified the importance of DPI/PPI (1 mark) and explained why the values of DPI and PPI are important in the context of printed and digital media (1 mark)

From the marking scheme, 1 mark is awarded for identifying a relevant factor and a further 1 mark is awarded for explaining its impact.

Bullet point 2, relating to resizing without loss of resolution, is not of key importance in this context.

Question 1(d)

The candidate was awarded **2 marks** because they have described converting the photograph to vector format (1 mark), and the application of suitable colour fill (1 mark).

The correct sequence of operation was not in the stem of the question so, getting the order correct was not required. Reference to tracing the outline is also a valid

point, as is the removal of the background however, the term 'fully cropped' should be used. These marks are not awarded as the candidates has already achieved maximum marks.

Question 2(a)

The candidate was awarded **1 mark** because they explained how an STL file stores a models geometry making it compatible with a 3D printer (1 mark).

The point made regarding STL being the only compatible filetype for 3D printing is incorrect as other file types such as OBJ and AMF can also be used.

Question 2(b)

The candidate was awarded **1 mark** because they have explained the importance of the Centre of Mass to the stability of the part during printing (1 mark), and the importance Model Mass to the quantity of material required to complete the build (1 mark).

The response relating to volume is incorrect as the question relates to the volume of the print material/filament needed and the volume/useable space required in the printer, rather than the volume within the 3D model.

Question 2(c)

The candidate was awarded **2 marks** (both for bump mapping) because they have:

♦ described the use of bump mapping on the grass with a supporting description (1 mark)
♦ identified the use of bump mapping on the wooden flooring with supporting description (1 mark).

No reference is made to specific evidence of volumetrics within the scene, and no reference has been made to specific evidence of IBL within the scene.

Question 3(a)

The candidate was awarded **1 mark** because they have explained that vector images will provide greater accuracy when used in laser cutting (1 mark).

SVG was not accepted as it is not a technical graphic file type in the course specification. Although DXF is the standard vector file type used for laser cutting, STL and DWG files can also be used, hence the note in the additional guidance.

Question 3(b)

The candidate was awarded **2 marks** because they have described the symbol which identifies the part/surface that requires a specific finish (1 mark) and indicated the type of finishing required (1 mark).

Question 3(c)

The candidate was awarded **0 marks** because both calculations are incorrect.

Question 3(d)

The candidate was awarded **5 marks** because they have described:

♦ the half profile with dimensions and revolve command (1 mark)
♦ the diameter 14 hole included in the half profile (1 mark)
♦ the R16 bottom profile sketch (1 mark)
♦ the R16 top profile sketch, offset 16mm (1 mark)
♦ the use of offset/thicken to 1mm (1 mark)

Further marks could have been awarded if the candidate had:

♦ included the term 'surface' as part of the loft description
♦ included the correct dimensions and all radii for the irregular fillet (note the candidate has used 1m etc and not indicated locations)
♦ used radial array

Question 3(e)

The candidate was awarded **1 mark** because they have described the number of openings on the air vent, as a change to the design, following the CFD test (1 mark).

The second response cannot achieve a further mark as only 1 mark can be awarded for editing the vent.

Question 3(f)

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

♦ the video sequence ('run through') of the assembly process (1 mark)
♦ that the video can be customised with different languages to support the assembly (eg in the form of subtitles) (1 mark)

The point relating to packaging is a disadvantage of paper rather than an advantage of digital, and the third point is too similar to the second and so, cannot be awarded an additional mark.

Question 3(g)

The candidate was awarded **1 mark** because they have described the disadvantage that mov. files can be large, affecting time for download/upload (1 mark).

Mov. files can be made smaller by using compression and most of the resolution, audio etc quality is maintained.

The other point is a generic comment relating to video files and can therefore not be awarded a mark.

Question 4(a)

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

♦ that selection of CMYK colour space and specific CYMK colours ensure print accuracy (1 mark)
♦ that including bleed areas removes the possibility of white borders (1 mark)
♦ that a DPI of 300 ensures a high-quality print (1 mark)

Question 4(b)

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

♦ offset lithography is capable of large print runs such as 20,000 (1 mark)
♦ offset lithography uses CMYK and 4 colour ink rollers (1 mark)

Further marks could have been awarded if the candidate had mentioned that offset lithography can print on a wide variety of substrates, including textured, rather than saying it is limited to paper only.

Question 4(c)

The candidate was awarded **1 mark** because they have explained that the sample print on glossy/calendared paper will produce a different print quality than the textured paper in the specification. (1 mark)

Further marks could have been awarded if the candidate had:

♦ had explained the difference between inkjet and offset
♦ identified that the inkjet printer was used to generate a sample print and not to be used for a print run

Question 5(a)

The candidate was awarded **4 marks** because they have explained that:

♦ motion capture stores the 'real life' movements of humans (1 mark)
♦ motion capture is the realistic movement of moving objects (1 mark)
♦ motion tweening software generates 'in-between' frames which can save time (1 mark)
♦ motion tweening makes it relatively simple to add and edit additional characters/objects (1 mark)

Question 5(b)

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

- that is relatively easy to edit most features of vector file type (1 mark)
- that the png. has a smaller file size (than the equivalent jpeg) and the impact this has on load times (1 mark)

Question 5(c)

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

- the depth of field has the effect of blurring the foreground bamboo which creates a greater focus on character (1 mark)
- the rule of thirds is used with 1/3 of the screen for the foreground, and 2/3 of the screen for the background where the character is located (1 mark)

The point relating to dynamic effects is incorrect as it must to relate to perceived movement or creating the impression of movement.

Question 5(d)

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

- the use of transitions to seamlessly switch between frames, to maintain the user's interest (1 mark)
- the use of zoom to draw attention to important features/characters, such as in screen 2 (1 mark)

Only 1 mark can be awarded for the description of each post-editing technique.

Question 6(a)

The candidate was awarded **1 mark** because they have explained how the purpose of the underground survey relates to the composition of soil/suitability of the ground for building (1 mark).

The candidate's second point is too similar to the first and relates to one point in the marking instructions, so cannot gain a further mark.

Question 6(b)(i)

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

- the landscape architect must be aware of the location of trees to be removed/proposed (1 mark)
- the use of contour lines will help to determine excavation work required (1 mark)

Question 6(b)(ii)

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

♦ the quantity surveryor will use the location plan to calculate of the quantity of materials required in relation to exterior features (eg fencing) (1 mark)
♦ the quantity surveyor will use the information on the location to calculate the costs based on the number of houses (1 mark)

Question 6(b)(iii)

The candidate was awarded **1 mark** because they have described, with reference to the description in the key, how the roads/pavements were to be constructed. (1 mark)

No further mark was awarded as a site plan and more accurate measurements would be used to determine space within individual plots.

Question 6(c)

The candidate was awarded **4 marks** because they have identified additional layers and explained:

♦ how a more extensive drainage layer (1 mark) could give more information to the consumers/potential buyers by indicating access point and connections related to induvial properties (1 mark)
♦ how a local features layer (1 mark) would communicate the location of specific equipment/furniture in the outside spaces (1 mark)

Candidate 2

The candidate was awarded a total of **46/80** marks as follows:

Question 1(a)

The candidate was awarded **1 mark** because they explained that by repeating the logo, the brand identity is maintained. (1 mark)

It is the logo itself that presents a professional and positive image, rather than its repetition.

Question 1(b)

The candidate was awarded **2 marks** because they have described the use of negative space:

♦ to create the illusion of mountains in the bottom right-hand corner of logo (1 mark)
♦ to divide the entrance way poster into segments/sections (1 mark)

The candidate's second point refers to white space rather than negative space.

Question 1(c)

The candidate was awarded **6 marks** because they have:

♦ identified the relevance of DPI (1 mark)
♦ identified the relevance of colour conversion (1 mark)
♦ identified the relevance of file type conversion (1 mark)
♦ described CMYK to RGB (reference to pantone) colour conversion (1 mark)
♦ described raster to vector file types for converting text (1 mark)
♦ described the impact of high DPI on the print quality (1 mark)

Question 1(d)

The candidate was awarded **1 mark** because they have described tracing/drawing of path/outlining the image ready to be filled in vector or illustration software. (1 mark)

A further mark could have been awarded if the candidate had specified the fill to be used. Reference is made to using vector software, but no mention is made of converting the original image to vector format for editing.

Question 2(a)

The candidate was awarded **0 marks** because their explanation does not show sufficient understanding of STL files.

Question 2(b)

The candidate was awarded **1 mark** because they have explained that volume can be used to determine the print material/filament required. (1 mark)

The Centre of Mass response does not demonstrate an understanding of the impact of the centre of mass on the build, and the Model Mass response does not demonstrate understanding of the quantity of material required for build therefore, no further marks can be awarded.

Question 2(c)

The candidate was awarded **5 marks** because they have described:

♦ the use of volumetrics in the lighting in the pool (1 mark)
♦ the use of bump mapping on the pool tiles with supporting description (1 mark)
♦ the use of bump mapping on the rocks to add realism to the object (1 mark)
♦ the use of IBL with reflection of the environment in the windows (1 mark)
♦ the use of IBL with reflection of the environment in the pool (1 mark)

The response on casting of shadows is not a valid example of volumetrics and therefore cannot be awarded a mark.

Question 3(a)

The candidate was awarded **2 marks** because they have stated
'DFX' file (markers processed this as a spelling error) (1 mark) and that the 2D drawing data contained in the 'DFX' file is compatible with a laser cutter. (1 mark)

Question 3(b)

The candidate was awarded **1 mark** because they have described that a surface finish is to be used/is required on the casing. (1 mark)

The comment regarding thickness is not relevant and has therefore been ignored.

Question 3(c)

The candidate was awarded **0 marks** because both calculations are incorrect.

Question 3(d)

The candidate was awarded **5 marks** because:

♦ they have described the diameter 12 hole extrude subtract 14 (1 mark)
♦ the R16 arcs have been given accurately (1 mark)
♦ they have explained that the work plane is offset 16mm from base (1 mark)
♦ they have described the use of loft to connect two profiles – appropriate use of 3D modelling techniques as per the marking instructions (1 mark)
♦ they have described accurate use of irregular fillet with dimensions (1 mark)

No further marks were awarded because:

♦ offset/thicken is used without reference to surface modelling techniques
♦ the candidate has used 'circular array' however, 'radial array' is the term required to be awarded a mark
♦ the loft method of creating the centre piece would not work without rails or additional work planes

Question 3(e)

The candidate was awarded **0 marks** because no relevant changes have been identified.

Question 3(f)

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

♦ the use of mechanical animation to support consumer understanding of assembly process (1 mark)
♦ the zoom function within the animation/video to help consumers with smaller assembly details (1 mark)

Although reference is made to languages, the response does not specify the text/audio edits required to improve customer understanding.

Question 3(g)

The candidate was awarded **1 mark** because they have described that mov. files can be large (if not compressed).

Although compatibility issues are mostly resolved, there are still some older windows devices that will not play mov. Files.

Question 4(a)

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

♦   the bleed area ensures publication is printed to the edge (1 mark)
♦   DPI is required to be high to ensure high quality print (1 mark)

Although colour space is identified, the candidate's response lacks detail relating to CMYK and RBG values. Although no reference is made to 300 DPI, the candidate has demonstrated knowledge that high DPI results in high quality print.

Question 4(b)

The candidate was awarded **2 marks** because they have explained that offset lithography:

♦   is appropriate for large print runs (1 mark)
♦   is appropriate for the substrate being used (1 mark)

Although reference is made to book sleeve size, the response does not highlight that offset lithography can produce custom page sizes.

Question 4(c)

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

♦   that colours may print differently (eg be 'less vibrant') depending on the printing method (1 mark)
♦   that the use of a different substrate/paper type will not produce the same result as print on textured paper (1 mark)

The candidate's first point is too generic to be awarded the mark.

Question 5(a)

The candidate was awarded **1 mark** because they have explained that motion capture creates realistic movements of humans. (1 mark)

The response relating to facial expressions is considered under as part of capturing of realistic human movements. The description of motion tweening is also too generic to be awarded the mark.

Question 5(b)

The candidate was awarded **1 mark** because they have explained the removal of background (transparency) capabilities of a png file. (1 mark)

The response about the ai. file is not a benefit and therefore cannot be awarded a mark.

Question 5(c)

The candidate was awarded **1 mark** because they have described blurring the foreground ('Depth of field') to creating focus on the character. (1 mark)

The candidate's response relating to dynamic effect is too vague to be awarded a mark. Likewise, the rule of thirds response does not show understanding of the purpose of rule of thirds within an animation, ie to create space of overlay information or create a natural focal point.

Question 5(d)

The candidate was awarded **0 marks** because:

♦ the response about transitions lacks clarity on how this would be used in animation
♦ the response about text (overlay) lacks specific examples of how this would be used
♦ speeding up and slowing down does not demonstrate a sufficient understanding of frame rates or post editing tools within the animation/editing software

Question 6(a)

The candidate was awarded **2 marks** because they have explained how underground surveys:

♦ relate to the soil composition and the impact this has on type of foundations (1 mark)
♦ are used to determine the previous use of land (1 mark)

Question 6(b)(i)

The candidate was awarded **2 marks** because they have described how the landscape architect uses:

♦ the location of trees to be removed/proposed (1 mark)
♦ contour lines to understand the lie of the land/slope position (1 mark)

Question 6(b)(ii)

The candidate was awarded **1 mark** because they have described how the quantity surveyor can use location plan information to determine costs for materials eg artificial grass. (1 mark)

The candidate has made no reference to the quantity of resources required therefore, no further mark can be awarded.

Question 6(b)(iii)

The candidate was awarded **1 mark** because they have described how the roads/pavements that are to be constructed, and what is needed. (1 mark)

The candidate's second response relates to quantity surveying and therefore, cannot be awarded a mark.

Question 6(c)

The candidate was awarded **4 marks** because:

♦ they identified a colour layer for housing (1 mark)
♦ they identified a key (layer) for symbols (1 mark)
♦ explained how colour layer being used to improve understanding of house type and location (1 mark)
♦ explained how the key for some BS symbols would make the content of the location plan clearer to consumers