Wednesday 2 May 2018 – All day

AS GCE DESIGN AND TECHNOLOGY

F521/01 Advanced Innovation Challenge

SESSION 1 AND 2 – PRACTICAL ASSIGNMENT

Candidates answer on this Workbook.

OCR supplied materials: None

Other materials required:
• Modelling materials and equipment

Duration: 6 hours

INSTRUCTIONS TO CANDIDATES

• Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
• Read each question carefully. Make sure you know what you have to do before starting your answer.
• Write your answer to each question in the space provided. All work should be completed on the Workbook. Additional paper will not be marked.
• You will have a total of 6 hours to complete this part of the examination. There will normally be two 3 hour sessions.

INFORMATION FOR CANDIDATES

• At the end of the examination you must have:
  • selected one of the Design Challenges detailed in this Workbook;
  • completed the Workbook showing your creative thinking and how your idea works;
  • produced a model/prototype to show the important features of your design;
  • have at least three photographs fixed in your Workbook showing your modelling activities.
• The total number of marks for this paper is 60.
• This document consists of 22 pages. Any blank pages are indicated.

Your Workbook will be collected at the end of sessions 1 and 2 and reissued when you sit session 3 the Reflection Test.
Transport Hubs

Transport hubs such as airports, train and bus stations are used by large numbers of people. They are places where people board a form of transport or interchange between different transport systems.

You have been approached as a designer to address one of the following Design Challenges and design an innovative product.

**Design Challenge One**

Many people find carrying luggage tiring. There is a need for a product that can provide a system to hold and transport at least two pieces of luggage within a transport hub.

- The product should provide security for luggage to allow the owners to relax while waiting.

**Design Challenge Two**

Many people cycle to transport hubs. There is a need for a product that will securely store bicycles or other personal transportation during the day or overnight.

- The product should take up minimal space.

**Design Challenge Three**

Fast food meals are often sold in transport hubs. There is a need for a healthy fast food meal suitable for children.

- The meal should meet current nutritional guidelines.

**Design Challenge Four**

An airport wishes to encourage arriving passengers to continue their journey by public transport. There is a need for a travel guide to provide travel information about buses, trams and trains to the local town centre.

- The guide should be interactive.

**Design Challenge Five**

There are often limited areas to sit and wait in transport hubs. There is a need for a product that can provide a comfortable seating area for passengers.

- The product should be modular.

**Design Challenge Six**

People can get bored while waiting at transport hubs. There is a need for a product that can act as a focal point and provide entertainment and/or interaction for the public.

- The product should have a transportation theme.
1 Explore the chosen Design Challenge. What are your initial thoughts?
   Use sketches and notes to communicate your thinking.

2 Which of your initial thoughts offers greatest potential to be taken further? Why?
Boxes 3, 4 and 5 are at the end of this booklet on the fold-out page
Start designing. Use annotated sketches and/or models to show your ideas. You may wish to use annotated photographs to communicate modelling.
Ideas continued
7. What do you think of your ideas so far, how has your job bag helped to inspire/direct your ideas? Use annotated sketches and/or annotated photographs to explain.

8. Which is your best idea? Justify your decision.
9 Reflect and Record

You will be asked to present your ideas (no more than 5 minutes).

Use this space to plan what you will say. Think about your brief, specification and key factors of your design.

10 Feedback

Record any suggestions made by others. Identify further modifications that you could make in response to this feedback.
11 Developing Your Idea, Improvements and Modifications

Use annotated sketches and/or annotated photographs to communicate your thoughts.

Include details of materials, components or ingredients, methods of manufacture and issues relating to sustainability in your answer.
12 Your Model

List the materials/ingredients you have chosen to make your prototype.

<table>
<thead>
<tr>
<th>Component description</th>
<th>Material/Ingredient</th>
</tr>
</thead>
</table>

Show how these components could be joined/combined together.
13 Action Plan for Session 2
Session 2

14 Review

Record any new thoughts about your design. Use annotated sketches and/or notes.

15 Modelling – Test, develop and refine your design proposal.

Progress Report 1

Problems you have come up against so far. What are the possible solutions?
Continue Modelling. You have 40 minutes’ modelling time.

Progress Report 2

Did your solutions work? Why?

Which areas of modelling have been most successful so far?
17 **Planning.** Plan what you will be doing/making during the final modelling activity.
18 Evaluation of Developed Design Proposal

Describe the effectiveness of your developed design proposal and how it meets the needs of the original Design Challenge. Use sketches and notes to show how your design could be improved. Evaluate your final proposal against your specification, you may use annotated sketches and/or annotated photographs.
Evaluation continued
3 Decision Time

Your Design Brief

I am going to design and model a …

4 Key Points

Examine the contents of your job bag remembering your design brief. Identify key points, which will help you write your specification.

5 Your Design Specification

To be successful my product must …