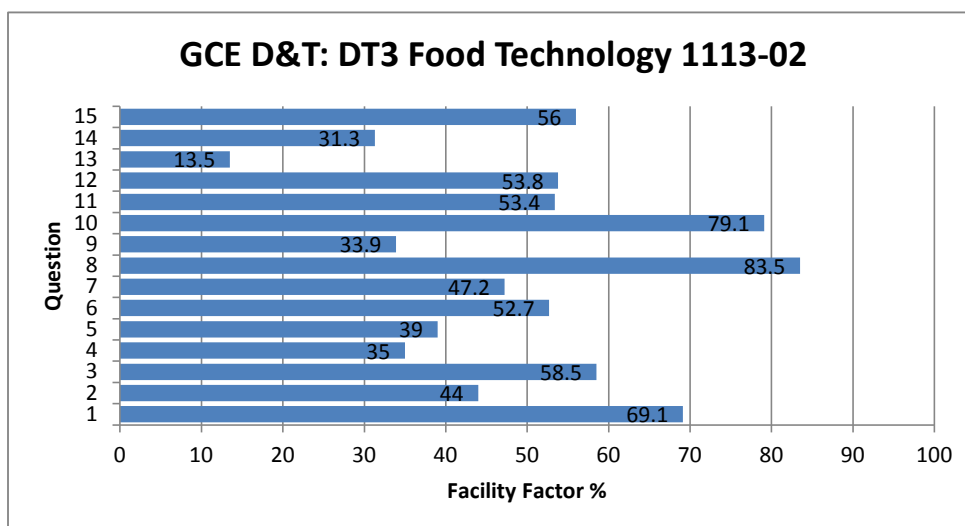


GCE D&T: DT3 Food Technology 1113-02

All Candidates' performance across questions

Question Title	N	Mean	S D	Max Mark	FF	Attempt %
1	55	5.5	1.5	8	69.1	98.2
2	23	3.5	2.5	8	44	41.1
3	44	4.7	2.2	8	58.5	78.6
4	20	2.8	1.9	8	35	35.7
5	25	3.1	1.5	8	39	44.6
6	33	4.2	2	8	52.7	58.9
7	31	3.8	1.9	8	47.2	55.4
8	50	6.7	1.4	8	83.5	89.3
9	7	2.7	1	8	33.9	12.5
10	46	6.3	1.6	8	79.1	82.1
11	36	13.9	5	26	53.4	64.3
12	30	14	4.7	26	53.8	53.6
13	2	3.5	0.7	26	13.5	3.6
14	16	8.1	4.3	26	31.3	28.6
15	27	14.6	3.8	26	56	48.2



SECTION A

*Answer **three** questions from this section.*

*This section is designed to demonstrate your **breadth** of knowledge in Food Technology.*

Each question carries 8 marks.

4. Describe what you understand by the term 'technology push' and identify **two** such food products and their innovative 'technology push' features. [8]

04 Technology push in where a manufacturer will produce an innovative product and launch a product life cycle for it where they think there was a gap in the market for it. An example of this is aerated chocolate (Aero chocolate). The manufacturer wanted to create such a chocolate that would produce a light and bubbly texture in the mouth, something which had yet to be existed. Another example of this is cereal. Manufacturers are constantly producing new cereals with different characteristics because there is forever going to be a gap in that market as it is something, we, as the consumers consume everyday. The characteristics that are always being developed could be the flavour, the shape (for kids, eg. rice crispies shape) & the

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06 nutritional content because of the awareness of the latest health scare

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4. Technology push is the use of technology to create a new product for there target market ~~eg~~ an example would be Quorn meat.

Quorn meat was created by technology push an example of this would be Quorn Chicken which is a food product which is made to taste like chicken but with meat alternatives.

another example would be modified Starches which are foods like pot noddles which you just add water and your food product is made.

technology push has helped create these food products because they have had to test different ways of making and creating these foods as they are not natural like normal chicken or noddles.

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4. Technology push in the food industry refers to the use of new and innovative techniques in food products which are only available ~~due to~~ due to the increase in technology advances. This term ~~also~~ refers to techniques ^{that can be used} and products (such as smart foods)

An example of a product influenced by the technology push is that of Aero Chocolate. The ~~the~~ Chocolate itself has a bubbly texture which is ~~the~~ achieved by pumping CO₂ through the chocolate to create air pockets much the same way as Popping Candy but with less pop.

Another example of a product with technology push features is Textured vegetable protein (TVP) which is produced by cultivating certain bacteria and then forming the TVP into a certain fibrous pattern which gives the illusion of meat. TVP also absorbs any flavour that it comes in contact with as it is very porous making this product ideal for dishes with a lot of ~~the~~ flavour

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SECTION B

*Answer **three** questions from this section.*

*This section is designed to demonstrate your **breadth** of knowledge in Food Technology.*

Each question carries 8 marks.

9. Outline how the main features of Registered Design, as prescribed by the Intellectual Property Office, benefit the creator of the design. [8]

09. Registered design means that other manufacturers cannot use the techniques used to package ~~their~~ their product if those designs are already associated with another product that already exists, for example, Cadbury's chocolate, everybody associated Cadbury with the colour purple. Cadbury tried to trademark the colour purple but didn't succeed. Another example is the shape of Toblerone. Registered design can include the shape, colour, texture, origin or how the product is made. However, it cannot include basic text as it is too common, neither can it include ~~the~~ the basic idea behind the product. When we refer to texture, it does not necessarily mean how the product itself feels, e.g. chocolate, it refers more to ~~the~~ a product's USP - e.g. Aero chocolate. The idea of intellectual property is so that products can easily be recognised to the consumer if they are familiar to the trademark that the

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SECTION C

*Answer **two** questions from this section.*

*Your answers should be substantial and show the **depth** of your knowledge in Food Technology.*

Each question carries 26 marks.

- 12.** Describe in detail the properties and characteristics of **two** specific food materials used in any named food product of your choice and explain the benefits of using **each** of these materials within the food product. [26]

END OF PAPER

12. Strong white bread flour is used in many products such as loafs of bread, bread rolls, pastry and pasta. It is made from Canadian wheat grains which have a very high gluten content. When this gluten is stretched and kneaded it holds pockets of air to give the product volume. The kneading of gluten also helps to give products, particularly bread, a fibrous texture. When cooking the gluten in the flour it provides the main bulk of the product and it also helps it to set. This flour is very thin and usually white in colour due to it coming from the Canadian grain. The benefit of using this is the high gluten content given texture to products. In pasta this is vital as it creates many fibres which help to hold the dough together. This Strong flour can also help to add many nutritional values to the

12.	<p>product. It acts as a main source of carbohydrate and this is because of the starch molecules and gluten. This material is also very flexible when stretched so it can be beneficial when making bread rolls into shapes such as a plait.</p> <p>Another specific food material which is used in many products is eggs. These eggs provide a source of protein, fat and in some fortified products they can also provide omega 3. The egg yolk is a very good source of protein which can be used in a main meal such as an omelette. It sets when it is heated through coagulation and so gives a porous texture and it is aesthetically pleasing as it is yellow in colour. On top of this, egg yolk can be used as an emulsifier in mayonnaise in order to help bind ingredients. Eggs also help to bind dry ingredients such as flour and sugar in a cake mixture.</p> <p>The egg white can also be very beneficial particularly when trying to aerate a product. For example when using egg whites in a meringue it is</p>
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mixed with ~~sugar~~ sugar. When it is whisked, air is combined into the mixture. The egg white has the ability to hold these pockets of air in a foamy consistency, in minute air bubbles. This is beneficial to the meringue as it gives it a light and crispy texture due to the air held in the egg white.

Eggs can also be used when glazing products such as bread and biscuits. If the egg is brushed over these products it creates a sealed layer. When these products are then cooked, the glaze begins to harden and create a shiny and golden brown finish to the products. This is beneficial as it is more aesthetically pleasing to the eye and so it can attract more consumers.

The egg can also be used to seal products such as pasta or pastry. While dry, the egg is applied between two sheets of dough. On cooking these products the egg helps to bind the two together and so prevent it falling apart or the filling from escaping out. Egg wash can also be used on the pastry to give a golden colour.

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