Instructions

Answer four questions out of the six questions.

The answers to each question must be returned in the examination envelope provided at the end of the examination.

This is an open book examination, and you are allowed access to any resources you feel are appropriate. This includes the use of the internet; however, you are not allowed to communicate with any third parties during the examination.

Where appropriate, please reference the appropriate resources used for each question.

The marks allocated to each question are given.

Unless otherwise stated, references to Statutes in England include the equivalent alternatives for Scotland, Wales and Northern Ireland.

Unless otherwise stated, any reference to Statutes includes the EU regulations that they enforce.

Food Analysis/Composition/Labelling

1. (a)
   (i) Explain how you would assess an official sample taken from a poultry processing plant producing whole frozen chickens for the presence of extraneous water.

   (6.5 marks)

   (ii) Explain how you would assess an informal sample of chilled fresh chicken for composition and freshness.

   (6.5 marks)

(b) Discuss how you would assess minced meats of different animal species to ensure their compliance with all relevant compositional and safety legal requirements.

   (12 marks)
2. (a) A sampling officer wishes to take a formal sample of Wheat for human consumption. The consignment consists of 40 tonnes. He has asked for assistance with regards to the sampling strategy and what contaminants should be tested for. What advice would you give? 

(12.5 marks)

(b) Describe the sample preparation that would be required for analysis of mycotoxins HT2 and T2 and the performance criteria that an appropriate analytical method should meet. Discuss how you would assess the results obtained for HT2 and T2.

(12.5 marks)

3. A local authority wants to carry out a survey on different types of honey on sale in supermarkets and farm shops, with a view to ascertaining the authenticity of label claims relating to floral and geographic origin.

(a) Evaluate and discuss the analytical techniques that are available to test the claims and describe how you would choose the most appropriate.

(12 marks)

(b) With this in mind, how would you advise the authority on which products to sample and what tests to carry out on them?

(6.5 marks)

(c) How would you interpret the results of analysis and how would you advise the local authority regarding these results?

(6.5 marks)
4. (a) Explain the principles of the quantitative ingredient declaration (QUID) requirements on food. How should Food Business Operators decide which ingredients need a QUID declaration and how should they calculate what it should be?

Describe how you would determine the quantity of the following ingredients in the food product and then discuss how you would assess against the declared quantities and report the results.

(i) **Steak** in a cooked steak and kidney pie
(ii) **Raisins and sultanas** in a breakfast muesli
(iii) **Tomato** in tomato ketchup
(iv) **Egg** in mayonnaise

(12.5 marks)

(b) In what circumstances would ingredients of a food not need a QUID declaration?

In your opinion, which ingredients in the following foods need a QUID declaration and why:

(i) Cinnamon and Raisin Bagel: (Wheat Flour (Wheat Flour, Calcium Carbonate, Iron, Niacin, Thiamine), Water, Raisins, Sugar, Yeast, Maize, Wheat Gluten, Salt, Cinnamon (Cassia), Rapeseed Oil, Mixed Spice, Malted Barley Flour, Preservative (Calcium Propionate), Brown Sugar, Orange Peel, Flour Treatment Agent (Ascorbic Acid))

(ii) Fresh Pesto: (Basil, Extra Virgin Olive Oil, Rapeseed Oil, Lemon Juice, Pecorino Medium Fat Hard Cheese, Regato Medium Fat Hard Cheese, Toasted Pine Nuts, Potato Starch, Garlic Purée, Salt)

(iii) Blueberry Smoothie: (Apple Juice from Concentrate, Apple Puree, Banana Puree, Blackberry Puree, Blueberry Puree, Blackcurrant Puree, Elderberry Juice, Goji Berry Extract, Natural Flavourings, Vitamins C, E, B6, Thiamine, Riboflavin)

(iv) Christmas Pudding: (Vine Fruits, Sugar, Cider, Fortified Wheat Flour, Rum, Palm Oil, Glacé Cherries, Acidity Regulator (Citric Acid), Humectant (Glycerine), Molasses, Almonds, Brandy, Mixed Peel, Water, Mixed Spice, Salt, Yeast)

(12.5 marks)
5. An inexperienced Trading Standards officer has been passed the following two label designs from two separate local businesses who are intending to launch the products in the near future. Assess the labels and comment on legislative compliance of both with full reasoning and rationale behind your decisions and opinions, so that the officer can feedback to the businesses.

(a)

(Hilltop Energy Strawberry Flavoured Honey Gel)

50g Sugar and Natural Ingredients:
Honey (84.7%), Strawberry Juice Concentrate (5%),

Nutritional Values:
Protein: 1.0g, Carbohydrate: 6.0g, Fat 1.0g,

Warning: Unsuitable for children under 12 months.
Suitable for Vegetarians.

(12.5 marks)
6. A sample of sugar-reduced sweets has been submitted for nutritional analysis and contains the following ingredients: aspartame, maltitol, polydextrose, sugar, flavourings.

Discuss how you would test the sample to determine:

a) The nutrition information for the product label
b) The level of sweeteners in the product

Describe the requirements for legal compliance including how the product should be labelled.