Mastership in Chemical Analysis

Part B Examination

Paper 2

Burlington House

Thursday 10 October 2019

1000 – 1300
Food law and policy

1. Discuss the current policy on the interpretation of the results of food allergen analysis in light of recent food incidents and include your opinion(s) on how allergen management and the presentation of information should be developed in food preparation and service environments.

   20 marks

2. The mission statement of the Food Standards Agency (FSA) is “Our job is to use our expertise and influence so that people can trust the food they buy and eat is safe and what it says it is.”

   Discuss the threat to food authenticity in a worldwide food supply chain in relation to such a mission statement.

   20 marks
Agriculture

3.  
   a) Outline one method of analysis for each of the different forms of nitrogen in a fertiliser.  
      15 marks  
   
   b) Discuss the preparation of different types of solid fertiliser for analysis.  
      5 marks

4.  Outline the main provisions of Regulation EC 767/2009 regarding the placing on the market and use of animal feeding stuffs.  
    20 marks

5.  
   a) Discuss the issues associated with the onsite sampling of each of the following:
      i.  Bulk feed samples
      ii. On farm mixes
      iii. Mineral feeds
      15 marks
   
   b) Using examples, discuss how you would assess the quality of forage feed.  
      5 marks
6. Outline the official methods of analysis for:
   i. Phosphorus soluble in neutral ammonium citrate in a NPK fertiliser
   ii. Starch in an animal feed
   iii. Oil in an animal feed
   iv. Magnesium in a fertiliser
   v. *Claviceps purpurea* in a feed material

   20 marks

Water

7. Discuss the method validation requirements for the analysis of anions in potable waters using ion chromatography.

   20 marks

8. 
   a) What are the treatments permitted on natural mineral water?
      
      5 marks
   
   b) Discuss what indicator analytes may be used to determine the source of water discovered in a residential basement? Include in your answer the challenges in interpreting the results.
      
      15 marks

END OF PAPER