

國立嘉義大學 99 學年度

食品科學系碩士班（食品科技組）招生考試試題

科目：專業英文

一、Please translate the following paragraphs into Chinese (70%)

1. Ohmic or direct resistance heating means that electrically conducting product is metallicity coupled, by means of electrodes, to an energy-supplying circuit, and thus is directly run through by an electric current. Ohmic heating can be used for heating liquid foods containing large particulates, such as soups, stews, and fruit slices in syrups and sauces, and heat sensitive liquids. (8%)
2. There are three major class of teas are known as green, black, and Oolong. These three types can be made from the same tea leaves depending upon how the leaf processed. The different result largely from enzymatic oxidation of tannin compound in the leaf. If the enzymes are allowed to act, they turn the green leaf black in much the same way that a freshly cut apple blackens. (7%)
3. Save food handling and preparation is a very important part of reducing the risk of causing or acquiring food poisoning. With the knowledge that so many raw foods coming into the kitchen can be contaminated with pathogenic microbes, it is essential to prevent these organisms from getting onto other foods (cross-contamination), or onto hands and directly into mouths. Consumers need to understand that raw foods are likely to be contaminated and that cross-contamination is contributory factor in foodborne illness. (10%)
4. The first step when studying the drying process of a particular food product, form the point of view of mass losses, is to plot the drying curve and the drying rate curve from the data obtained experimentally. These graphs can aid in identifying the different mass transport phenomena that can be relevant to the drying process and in selecting the appropriate mathematical equations that model drying kinetics. Additionally, it is important in verifying the mass balances of the process. (10%)
5. The importance of fat characterization is evident in many aspects of the food industry, including ingredient technology, product development, quality assurance, product shelf life, and regulatory aspects. The effort to reduce the amount of calories consumed as fat in the United States accentuates the significance of understanding the lipid components of food. (10%)

6. While separating proteins from complex mixtures may be the objective in many situations, it may be necessary at times to visualize the location of protein molecules within foods or food ingredients. Fluorescence microscopy with stains specific to proteins can be applied to this problem. Staining intensity is influenced by compositional differences in the protein and by structural changes due to processing. (10%)
7. Enzymes, due to their specificity and sensitivity, are valuable analytical devices for quantitating compounds that are enzyme substrates, activators, or inhibitors. In enzyme-catalyzed reactions, the enzyme and substrate are mixed under specific conditions (pH, temperature, ionic strength, substrate concentration, and enzyme concentrations). The enzymatic reaction is followed by measuring either the amount of product generated or the disappearance of the substrate. (10%)
8. Carrageenans are mixtures of linear chains that have a negative charge due to numerous ionized sulfate half-ester groups along the chain. These molecules do not precipitate at low pH because the sulfate group remains ionized at all practical pH values. (5%)

二、Please answer the following questions in English (15%)

1. What effect would you expect due to any trapped air in the packaged products to have on the results for freezing time? (5%)
2. It is commonly recognized that “the sugar in fruit is better for you than the sugar in candy”. Please make your comments on this statement. (5%)
3. Are both roasted beef and cooked rice *potentially hazardous*? Please include your explanations in the answer. (5%)

三、Please translate the following terms into English (15%)

1. 膠體	2. 板式濃縮機	3. 吸附等溫線	4. 薄層層析	5. 揮發性物質
6. 防腐劑	7. 高果糖玉米糖漿	8. 高壓均質法	9. 超高壓滅菌法	10. 表面張力
11. 噴霧乾燥	12. 食品添加物	13. 良好作業規範	14. 洋菜	15. 皂化價