

國立屏東科技大學 110 學年度 碩士班暨碩士在職專班 招生考試
食品科學系碩士班 食品化學試題

- 一、何謂食品等溫水分吸附曲線「Moisture Sorption Isotherm of Foods」。(A) 請寫出其定義 (5%)，(B) 並說明其重要性及應用。(15%)
- 二、請列舉您所熟悉的三種不同食品酵素，包括其中英文名稱、作用機轉、及其應用? (20%)
- 三、在台灣海拔 3500 公尺高山上發現特定植物，將其蒸煮後溶出具有「黏稠性的物質」，請問您如何鑑定成分與結構，並將其開發成「機能性保健食品」？請敘述你的理由、方法及如何驗證其保健功效? (20%)
- 四、國際知名品牌比利時巧克力 GODIVA，其最新開發之新產品，口感、味道及顏色面面俱到，是個非常成功的開發案例，唯在教長途的運輸途中，會發現巧克力有部分溶化的現象，請敘述您的原因及解決之道。(15%)
- 五、身為「亞歷山大生技公司」研發部門主管，您帶領的團隊利用基因重組技術發現，能夠迅速分泌大量胞外蛋白質且具耐熱性，若要將其廣泛運用於食品工業上，請問需要做哪些功能性質測試？請至少舉例三種食品功能特性，並敘述你的測試方法。(15%)
- 六、請翻譯下面之文章 (10%)

The aim of the current research was to examine lipid oxidation in chicken meat heated to different temperatures followed by refrigerator storage and the factors contributing to lipid oxidation. It showed that lipid oxidation was significantly promoted when meat was heated up to 70°C and stored for 2 and 4 D as measured by thiobarbituric acid reactive substance. The monounsaturated fatty acids and polyunsaturated fatty acids also decreased significantly ($P < 0.05$) with the increase of heating temperature. The liberation of nonheme iron and increase of hydroxyl radical were observed in heated chicken meat, and the activities of antioxidant enzymes was decreased considerably at higher temperatures. The changes of these prooxidants and antioxidants might constitute a possible mechanism for the stronger lipid oxidation in heated meat.