

題號： 307

國立臺灣大學 108 學年度碩士班招生考試試題

科目： 食品化學與加工

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Part A (50%): ※ 注意：請於試卷內之「非選擇題作答區」依序作答，並應註明作答之部份及題號。

1. Please answer the following questions: (15%, 5% each)
 - (a) What is the difference between baking powder and baking soda?
 - (b) How does baking powder make things rise?
 - (c) What is the difference between single-acting and double-acting baking powder?
2. (a) Please provide the chemical structures of xanthan gum, carboxymethyl cellulose (CMC) and starch phosphate monesters. (15%)
(b) What property does xanthan gum, carboxymethyl cellulose and starch phosphate monoesters have in common that contributes to their ability to increase viscosity? (5%)
3. Describe three (3) ways to minimize Maillard browning in foods and explain why each method or treatment is effective. (6%)
4. Please tell the differences among the traditional packaging, Modified Atmosphere Packaging, active packaging, and smart/intelligent packaging for moon cakes. (9%)

Part B (50%):

1. Please briefly compare the differences in the following items between sesame oils (芝麻油) and camellia oils (苦茶油) that were obtained by extrusion-expelling process. (10 %, 2.5% each)
 - (a) dominant fatty acid(s)
 - (b) oil oxidative stability
 - (c) iodine value
 - (d) saponification value
2. Describe in words regarding the nutritional properties of protein. And accordingly, what is a protein with good quality? (10 %)
3. What is chocolate bloom? Describe the cause of chocolate bloom in words about two typical types of bloom, and how to prevent it happens. (10 %)
4. Describe the scheme of vegetarian meat (素肉) production, and explain the purpose of each step. (10 %)
5. Explain the following items that used in food science area. (10 %, 2% each)
 - (a) 12D
 - (b) refrigerant
 - (c) temperature danger zone
 - (d) good hygiene practices
 - (e) low-acid foods

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