

1. We find that we often have to adjust the water level added to flours in order to achieve a standard dough consistency. What are the factors that cause the water absorption capacity of flour to vary? (8%)
2. A potato processor is concerned that her potato flakes are an undesirable golden brown color as soon as they are produced. The potatoes are peeled, steam-cooked, mashed then dried on heated drums. Her proposed solution is to conduct the drying under a nitrogen atmosphere to limit oxidation. (8%)
 - (a) What is the most likely mechanism of browning?
 - (b) Do you think her solution is likely to be effective? Why?
3. What are the substrates and products for the following enzymes? What are their applications in food processing. (10%)
 - (a) Lipooxygenase
 - (b) α -Amylase
 - (c) β -Galactosidase
 - (d) Papain
 - (e) Glucose isomerase
4. List the objective of each of the following heat processes, along with the type of food to which the heat process is applied. (9%)

<u>Heat Process</u>	<u>Objective</u>	<u>Product Application</u>
(a) Pasteurization		
(b) Blanching		
(c) Ultrapasteurization		
5. Please define the (a) modified atmosphere packaging, (b) controlled atmosphere packaging, and (c) active packaging. Please give one example for each type of packaging. (9%)
6. Why is ISO 22000 important to food safety management system? What are the major differences of ISO 22000 from ISO 9001? (6%)
7. 試述食品腐敗劣變之原因，及相對於防止食品腐敗劣變原因的食品保存方法。(10%)
8. 說明 pasteurization 及 blanching 之相同及相異之處。(6%)
9. 請舉出三種食品中毒微生物？另，舉出二例用於製作發酵食品的微生物。(10%)
10. 綠茶與烏龍茶在製作原理與製程上之差別？(8%)
11. 自來水的衛生標準中規定每毫升的生菌數不能超過一百個。但是國內某淨水廠的污染程度相當，如何處理到合乎標準？(6%)
12. 解釋名詞。(10%)每小題 2.5 分
 - (1) 熱致死時間曲線 (Thermal death time curve)
 - (2) 個體快速冷凍 (IQF; individual-quick-freezing)
 - (3) 商業殺菌 (commercial sterilization)
 - (4) 靜水壓殺菌器 (Hydrostat; hydrostatic sterilizer)