

[Part A] 50%

1. Please define (a) modified atmosphere packaging, (b) controlled atmosphere packaging, (c) active packaging, and (d) intelligent packaging. Please give one practical example for each type of packaging. (12%)

2. Please fill in the blanks in the Table. (16%) ※ 注意：請於試卷內之「非選擇題作答區」標明題號依序作答。

Food additives	Additive class (According to the regulation of Department of Health, Executive Yuan, ROC)	Chemical structure	Property/Function/ Mechanism	One practical example of food applications
Sodium Propionate	(1)	(2)	(3)	(4)
Sucralose	(5)	(6)	(7)	(8)
Sodium Trimetaphosphate	(9)	(10)	(11)	(12)
Distarch Phosphate	(13)	(14)	(15)	(16)

3. Please describe the gelling mechanism of (a) high methoxyl pectin, (b) rice starch/flour, (c) kappa-carrageenan/locust bean gum, and (d) alginate. (16%)

4. Please describe the principle of spray drying and drum drying. What are their advantages and disadvantages when applied on milk dehydration? (6%)

[Part B] 50%

5. Describe at least 4 denaturing agents of proteins and their mode of actions. (8%)

6. Matching tests. Match the following compounds (a-e) and their corresponding odor that are usually used to produce artificial flavors. For example: (f)-(5). (10%).

(a) allyl hexanoate, (b) benzaldehyde, (c) diacetyl, (d) ethyl maltol, (e) limonene,
(f) cinnamic aldehyde.

(1) almond, (2) banana, (3) buttery, (4) candy, sugar (5) cinnamon, (6) fruity,
(7) orange, (8) pear, (9) pineapple

7. Compare between two predictive tests for measuring the stability of a fat.

(a) active oxygen method, AOM (b) oxidative stability index, OSI (8%)

8. Describe the following glossaries used in food processing. Explain the principle, definition or purpose. (24%, 4% each)

(1) HTST pasteurization (2) sugar and fat bloom in chocolate (3) lyophilization

(4) stripping process (5) low temperature plasma sterilization (6) chilling injury

試題隨卷繳回