

科目: 食品科學概論

系所組: 食品科學系

年級: 二

I. 單選題(共 25 題, 每題 3 分, 共 75 分), 請依序填答

1. Which could not be an example of a processed food developed with the aid of technology?  
(A) dried pineapple slices (B) fresh peas (C) bottled pickled herring (D) fermented sausage herring (E) frozen microwave scrambled eggs
2. Which is not a group from the Food Guide Pyramid?  
(A) milk, yogurt, cheese (B) food ingredients and additives (C) vegetables (D) fruit (E) bread, cereal, rice, and pasta
3. Which is not a major mineral?  
(A) calcium (B) iron (C) potassium (D) sulfur (E) sodium
4. A deficiency of energy or nutrients is called (A) overnutrition (B) over wasting (C) secondary deficiency (D) undernutrition (E) malnutrition
5. The neutralization of an acid by a base is most closely related to  
(A) titration (B) polymerization (C) condensation (D) oxidation (E) reduction
6.  $\text{CH}_3\text{COOH}$  is the chemical formula for  
(A) Acetic acid (B) propionic acid (C) lactic acid (D) malic acid (E) fumaric acid
7. All of the following are monosaccharides except  
(A) glucose (B) fructose (C) dextrose (D) maltose (E) galactose
8. In the commercial manufacture of sugar, which is the key step?  
(A) caramelization (B) gelatinization (C) polymorphism (D) graining (E) crystallization
9. All of the following are functional properties of polysaccharides except  
(A) gelation (B) water binding (C) thickening (D) enhanced sweetness (E) fat replacement
10. Which choice does not belong with the other?  
(A) Maillard reaction (B) nonenzymatic browning (C) caramelization (D) condensation, rearrangement, polymerization (E) reducing sugar + amino group  $\rightarrow$  glycosylamine
11. All of the following are lipid functional properties except  
(A) aeration (B) heat transfer (C) gelation (D) flavor (E) plasticity
12. The commercial \_\_\_\_\_ of oils is done to harden them and increase shelf life  
(A) oxidation (B) hydrogenation (C) hydrolysis (D) interesterification (E) lipoxidation
13. Which processing step is regulated as a food additive?  
(A) canning (B) irradiation (C) extruding (D) freezing (E) pasteurization
14. All are examples of stabilizers or thickeners except  
(A) pectin (B) starch (C) guar gum (D) gelatin (E) glucose

※ 注意: 1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用, 試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具, 以簡章之規定為準。

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15. The conversion of raw animal and plant tissue into forms that are convenient and practical to consume is called (A) food preservation (B) disintegration (C) food processing (D) food engineering (E) unit operation
16. Which is the incorrect pairing? (A) biological change, evaporation (B) biological change, presence of microbes (C) chemical change, lipid molecule oxidation (D) physical change, phase separation (E) physical change, moisture loss
17. Most bacteria cannot grow when the water activity is (A) Above 0.7 (B) below 0.7 (C) 0.95 (D) above 1.0 (E) below 0.95
18. Spoilage microorganisms cause the shelf life of food to (A) decrease (B) increase (C) remain unchanged (D) reverse itself (E) decreased then increase
19. D value written as  $D_{121}$  indicate (A) the specific temperature required to kill 90% of a population of organisms. (B) that thermophilic spores are present at 121°C. (C) the specific time required to kill 90% of a population of organisms heated to 121°C. (D) the specific temperature (121°C) required to kill 100% of a population of organisms. (E) the specific time (121 seconds) required to kill 90% of a population of organisms.
20. Fermentation causes the pH of foods to (A) increase (B) decrease (C) remain unchanged (D) increase until a certain point (E) increase then decrease
21. One of the three types of foodborne hazards is (A) temperature (B) biological (C) time of cooking (D) raw meat (E) food handler
22. The danger zone of temperature lies between (A) 40 and 140°C (B) 0 and 100°C (C) 40 and 140°F (D) 0 and 45°C (E) 4 and 140°C
23. Flavor combines all of the following except (A) mouthfeel (B) odor (C) taste (D) residual sensations (E) appearance
24. Which process does not take place in the cooking of eggs? (A) denaturation, followed by coagulation (B) denaturation of egg white proteins (C) thickening of the egg white (D) denaturation of egg yolk lipids (E) reorganization of coagulated ovalbumin polypeptides
25. The yeast used in the making of bread is (A) *Saccharomyces* (B) *Actinomyces* (C) *Bradyomyces* (D) *Salmonella* (E) *Streptococcus*

## II.問答題(共 2 題，共 25 分)

1. Which do you think is a better indicator of the stability of a food to deterioration (its shelf life): water activity or moisture content? Why? (10 分)
2. Define food safety, and list the three types of hazards found in foods. (15 分)