

靜宜大學 100 學年度碩士班暨碩士在職專班招生考試試題

學系：食品營養學系

科目：食品化學

共壹頁

1. (10%)何謂食品成分的proximate analysis? 一般而言包含那些成分的測定?
2. (10%)請舉一例，解釋何謂「Intermediate moisture foods (IMFs)」，並說明其具較佳貯存安定性之原因。
3. (15%)請比較酵素性褐變、caramelization與Maillard reaction之異同及其對食品之影響或應用。
4. (15%)請說明並比較gelatin、gelatinization與gelation之異同。
5. (16%)以下是有關protein/enzyme相關名詞，請分別詳細解釋。
  - (a) Lineweaver-Burk Equation
  - (b) Tertiary structure
  - (c) Isoelectric point
  - (d) saccharifying amylase
6. (16%)請詳細說明以下名詞
  - (a) CIE L\*, a\*, b\*
  - (b) Conjugated linoleic acid
  - (c) malonaldehyde
  - (d) chill proofing of beer
7. (18%)(填空) Enzymes such as pectinmethylesterase (PME) and polygalacturonase (PG) are closely linked to the textural degradation of fruits. PME deesterifies pectin, converting it into   A   or   B  . PG hydrolyses the glycosidic linkages in pectic substances, reducing the molecular weight of the polymer and thus influencing the texture. (以上出自 Alandes et al., 2009, Journal of Food Science, 74(2), S90-S96)。PPO is a copper-containing enzyme that catalyzes 2 types of oxidative reactions: hydroxylation of   C   to *o*-diphenols and oxidation of *o*-diphenols to   D   in the presence of oxygen。(以上出自 Jang and Song, 2004, Journal of Food Science,69(8), C648-651)。
  - (a) (16%) 請分別寫出A, B, C, D是甚麼(中英文皆可)?
  - (b) (2%) pectin是何種單糖的聚合物(中英文皆可)?