

國立嘉義大學 99 學年度

食品科學系碩士班（保健食品組）招生考試試題

科目：專業英文

一、翻譯為中文 Please translate the following paragraphs into Chinese (70%)

1. Mitochondrial defects have been implicated in several degenerative diseases, including Parkinson's and Alzheimer's diseases. Several diseases result from point mutations in mitochondrial DNA (mtDNA) involving either tRNA or one of the structural genes. Generally, the mutations cause functional defects in the electron transport chain, which may lead to accumulation of pyruvate, fatty acids and triglycerides, and associated with lactate acidosis. (10%)
2. Curcumin is commonly used dietary spice and coloring agent in cooking and is used anecdotally as an herb in traditional Indian and Chinese medicine. The studies reported by Li's group in 2008 showed that curcumin ameliorates mouse cardiac hypertrophy induced by aortic banding and chemical infusion, as assessed by heart weight/body weight and lung weight/body weight ratios, echocardiography pattern, and gene expression of hypertrophic markers. (10%)
3. Nutraceuticals are dietary supplements that deliver a concentrated form of a presumed bioactive agent from a food, are presented in a non-food matrix and are used to enhance health in dosages that exceed those that could be obtained from normal foods. A subset of dietary supplements functions as immunostimulatory nutrients. Among them, the most studies are vitamins A and E, the mineral zinc and omega-3 polyunsaturated fatty acids. (10%)
4. Primary hepatocytes were prepared from male Sprague Dawley rats by using the collagenase perfusion method and plated in collagen-coated six-well culture plates at a density of 1×10^6 cells per well in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10 nM insulin, 100 units/ml penicillin, 100 μ g/ml streptomycin and 10% fetal bovine serum (FBS). The cells were incubated at 37°C and were used for experimental treatment after attachment. (10%)
5. Polyphenols have received much attention because of their potential health benefits. Beneficial effects of tea have been attributed to the strong antioxidative activity of the tea phenolic compounds, known as tea catechins. Phenolic compounds comprise an aromatic ring, bearing one or more hydroxyl substituent and range from simple phenolic compounds to highly polymerized compounds. The catechins represent nearly 80% of the total flavanoid content of green tea. (10%)

6. Herbal and botanical products, such as essential oils and plant extracts, have been studied for their antimicrobial activities. Essential oils are aromatic oily liquids obtained from different plant parts and have broad activities. Other than antibacterial and antiviral effects, most essential oils investigated possess insecticidal, antifungal, acaricidal, cytotoxic and antioxidant properties. Therefore, they are intensely investigated in the fields of pharmacology, pharmaceutical botany, medical and clinical microbiology, phytopathology and food preservation. (10%)
7. Oxidative stress, the consequence of the imbalance between prooxidants and antioxidants in an organism, is considered to play a very important role in the pathogenesis of several degenerative diseases, such as diabetes, cancer and cardiovascular diseases, including atherosclerosis. Reactive oxygen species (ROS), including hydroxyl radicals, superoxide radicals and singlet oxygen, as well as reactive nitrogen species, are continuously generated in the cell, as a result of normal human metabolism, and can be harmful, as they can attack biological macromolecules, cause membrane and DNA damage, and enzyme inactivation. (10%)

二、作文 Composition (15%)

My ideal career

三、請寫出下列英文專有名詞 Please translate the following terms into English (15%)

1. 發炎反應	2. 脂肪組織	3. 抗疲勞功能	4. 保肝功能	5. 高血壓
6. 降血脂功能	7. 缺鐵性貧血	8. 抗原-抗體反應	9. 植化素	10. 二次代謝物
11. 膳食纖維	12. 非必需胺基酸	13. 幾丁聚糖	14. 氧化還原電位	15. 骨質疏鬆症