

科目：語文能力

系所組：營養科學系碩士班

## (2) 專業英文-選擇題(第 26-50 題)

26. Which dietary standard is set at a level that meets the needs of almost all healthy people?
- A. DRI (dietary reference intakes)
  - B. RDA (recommended dietary allowance)
  - C. UL (upper level)
  - D. AMDR (acceptable macronutrient distribution range)
27. Which dietary standard is set at a level that meets the needs of about 50% of all healthy people?
- A. EER (estimated energy requirement)
  - B. AI (adequate intakes)
  - C. RDA (recommended dietary allowance)
  - D. UL (upper level)
28. Nutrient contents in food may be affected by
- A. food processing
  - B. plant variety
  - C. ripeness of plant food when harvested
  - D. all of the above
29. Which vegetables tend to be good sources of iron, calcium, folate and vitamins A and C?
- A. root vegetable, such as carrot
  - B. legume
  - C. orange-yellow color vegetable
  - D. dark-green color vegetables
30. The coordinated squeezing and shortening of the muscles of the GI tract is called \_\_\_\_\_?
- A. muscle contraction
  - B. peristalsis
  - C. constipation
  - D. diarrhea
31. \_\_\_\_\_ is the part of the digestive system normally houses the largest number of bacteria.
- A. Stomach
  - B. Small intestine
  - C. Large intestine
  - D. Liver
32. Serious liver disease may result in malabsorption of \_\_\_\_\_.
- A. dietary fiber
  - B. protein
  - C. carbohydrate
  - D. fat

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33. \_\_\_\_\_ is a digestive disorder caused by the infection of *Helicobacter pylori*.
- A. Peptic ulcer      B. Diarrhea  
C. Constipation      D. Celiac disease
34. \_\_\_\_\_ functions as an antioxidant by donating electrons to \_\_\_\_\_ and prevents the widespread destruction of both cell membranes and DNA.
- A. Ascorbic acid, tyrosine      B. Vitamin E, free radicals  
C. Folate, homocysteine      D. Carotenoid, hydrolyzing enzyme
35. Which population group is at lowest risk of fat-soluble vitamin deficiencies?
- A. premature infants      B. very-low income families  
C. patients with malabsorption disease      D. pregnant women
36. Vitamin A is involved in all of the following functions except
- A. vision and dark adaptation      B. resistance to infection  
C. hemoglobin synthesis      D. cell differentiation
37. Which of the following water-soluble vitamins participate in oxidation-reduction reaction?
- A. thiamin, riboflavin, niacin      B. folate, vitamin B12, choline  
C. biotin, pantothenic acid, niacin      D. riboflavin, niacin, ascorbic acid
38. Niacin can be synthesized in human body from
- A. tryptophan      B. tyrosine  
C. thiamin      D. thymine
39. \_\_\_\_\_ reaction requires \_\_\_\_\_ and allow the formation of nonessential amino acids.
- A. Deamination, niacin      B. Transamination, pyridoxin  
C. Transsulfuration, cobalamin      D. Transmethylation, folate
40. \_\_\_\_\_ is required for the formation of \_\_\_\_\_ required to synthesize collagen.
- A. Amino acid, protein      B. Citric acid, hydroxyapatite  
C. Ascorbic acid, hydroxyproline      D. Pantothenic acid, hydroxylysine
41. Microcytic anemia requires both \_\_\_\_\_ and \_\_\_\_\_ for its recovery.
- A. iron, vitamin C      B. iron, pyridoxine  
C. folate, cobalamin      D. copper, zinc
42. Macrocytic anemia, peripheral neuropathy, and impaired cognitive function are signs of \_\_\_\_\_ deficiency.
- A. thiamin      B. riboflavin      C. niacin      D. cobalamin

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43. Which of the following nutrients are not involved in one-carbon metabolism?
- A. thiamin      B. methionine      C. choline      D. pyridoxine
44. \_\_\_\_\_ is the key hormone which promote milk production during lactation.
- A. oxytocin      B. prolactin      C. estrogen      D. progesterone
45. Which of the following statements indicates a acceptable pregnancy outcome?
- A. The pregnancy lasts longer than 37 weeks.  
B. The birth weight of neonate is not greater than 2500 grams.  
C. The pregnancy weight gain is as limited as possible.  
D. all of the above
46. \_\_\_\_\_ is defined as the time-dependent physical and physiological changes in body structure and function that occur normally and progressively throughout adulthood as humans mature and become older.
- A. Aging      B. Successful aging      C. Healthy aging      D. Frailty
47. There are many phenomena considered as the causes of aging, except
- A. Some errors occur in the copying of DNA.  
B. Hormonal functions change through years.  
C. Body system reserve capacity declines.  
D. Death is programmed into cells.
48. The diets of adults in Taiwan tend to be low in \_\_\_\_\_.
- A. vitamin A      B. vitamin C      C. vitamin D      D. vitamin K
49. \_\_\_\_\_ is commonly observed in older adults but does affect their nutrient utilization.
- A. Loss in taste and smell perceptions  
B. Reduced stomach acidity  
C. Diminished renal function  
D. Presence of chronic diseases
50. A person would benefit from regular physical activity for \_\_\_\_\_.
- A. a reduced risk of falling  
B. better sleep habit  
C. healthier body composition  
D. all of the above

(111)輔仁大學碩士班招生考試試題	考試日期：111年3月4日第2節 本試題共 2 頁 (本頁為第 1 頁)		
科目：營養學綜論	系所組：營養科學系		
一、選擇題 (40%)			
1. 在細胞凋亡 (Apoptosis) 過程中，蛋白質水解 (Proteolysis) 是經由下列何者物質所調節？			
(A) Caspase	(B) Autophagic lysosomal protease		
(C) Phagocytic protease	(D) Ubiquitin		
2. 在一項維生素與基因表現的實驗中，某生欲從下列序列第 5 個位置鹼基開始設計 10 鹼基的正向 PCR 引子 (forward PCR primer)，以供偵測基因表現使用。試問何者為正確序列？			
5' -ATGCCGATGTAGGGCGGGATGGAGAGATAGAAGA-3'			
(A) 5' -ATGCCGATGT	(B) 5' -CGATGTAGGG		
(C) 5' -GAGTCACAAT	(D) 5' -GCTACATCCC		
3. 下列何者營養素缺乏時易導致口腔、消化道的黏膜組織的感染？			
(A) 維生素K	(B) 維生素E	(C) 維生素D	(D) 維生素A
4. 台灣衛福部國民健康署建議可依據個人孕前的身體質量指數 (BMI) 做孕期體重的管理，其建議原則增加多少為宜？			
(A) 5-9公斤	(B) 7-10公斤	(C) 10-14公斤	(D) 15-16公斤
5. Glutamate-oxaloacetate transaminase (GOT) 催化時需要下列何者輔酶參與其反應？			
(A) Coenzyme A	(B) Niacinamide adenine dinucleotide (NAD)		
(C) Flavin adenine dinucleotide (FAD)	(D) Pyridoxal phosphate (PLP)		
6. 體內的 Niacin 可由下列何者胺基酸代謝轉換而得？			
(A) Asparagine	(B) Proline	(C) Arginine	(D) Tryptophan
7. 人類因缺乏何者酵素而導致無法自行合成 linoleic acid？			
(A) Δ12 desaturase	(B) Δ9 desaturase		
(C) Δ6 desaturase	(D) Δ3 desaturase		
8. 從細胞萃得的 DNA 品質可使用波長 260/280 nm 比值測定其純度。當 DNA 樣本含有大量蛋白質殘留時，其 260/280 nm 比值會呈現甚麼樣的變化？			
(A) 上升	(B) 下降	(C) 不變	(D) 無法測得
9. 有關體重的敘述，何者正確？			
(A) 身體質量指數 (BMI) 可用來計算身體體脂肪量			
(B) 男性的腰圍/臀圍比 > 1.0 時會增加肥胖引起心血管相關疾病的風險			
(C) 每天少攝取飲 500~1000 大卡，一個月後可使體重減少 0.5~1 kg			
(D) 身高 170 公分，體重 68 公斤，其身體質量指數 (BMI) 等於 20			
10. 在植物性食物中，米類因缺乏何者胺基酸；而豆類缺乏何者胺基酸？但將兩者搭配食用可發揮蛋白質的互補作用。			
(A) Lysine (Lys) & isoleucine (Ile); Tyrosine (Tyr) & tryptophan (Trp)			
(B) Methionine (Met) & Tryptophan (Trp); Lysine (Lys) & leucine (Leu)			
(C) Lysine (Lys) & isoleucine (Ile); Methionine (Met) & Tryptophan (Trp)			
(D) Threonine (Thr) & Methionine (Met); Leucine (Leu) & Histidine (His)			

11. 食物消化時，十二指腸分泌大量黏液。試問它具有甚麼目的？  
 (A) 潤滑作用 (B) 中和胃酸，以避免強酸侵蝕  
 (C) 消化食糜 (D) 促進食物蠕動，以利於吸收
12. 在酵素動力學實驗中，Km值高具有甚麼含意？  
 (A) 反應速率慢 (B) 酵素與受質的親和力高  
 (C) 反應速率快 (D) 酵素與受質的親和力低
13. 激烈運動後，肌肉大量產生的乳酸會經由體內何者路徑代謝再生成葡萄糖？  
 (A) Calvin cycle (B) Cori cycle  
 (C) Krebs cycle (D) Malate shuttle cycle
14. 體內 25-OH vitamin D (25-hydroxycholecalciferol)是由何者組織負責轉化形成的產物？  
 (A) 腎臟 (B) 肺臟 (C) 肝臟 (D) 皮膚
15. 在營養充足的情況下，DNA複製主要發生在細胞週期 (Cell cycle) 中那一個相 (Phase) ?  
 (A) G1 (B) S (C) G2 (D) M
16. 篩檢病人營養不良 Malnutrition Universal Screening Tool (MUST)量表的項目，不包括下列何者？  
 A)急性疾病影響攝食的狀態 B)身體質量指數 C)小腿圍 D)非計畫性體重喪失。
17. 下列那一種減重飲食，其巨量營養素占熱量比率最接近醣類約 40%，脂肪及蛋白質各占 30%?  
 A) Atkins Diet B) Ketogenic diet C) The South Beach Diet D) Mediterranean Diet。
18. 下列有關肝硬化病人之代謝變化，何者錯誤？ A)肝醣儲存量增加 B)有葡萄糖不耐的情形產生  
 C)優先使用脂肪或蛋白質作為能量來源 D)容易出現低血鈉
19. 體內九成以上的鉀離子需從腎臟排除，當急性腎損傷發生導致病人高血鉀時，下列何者不是常用的臨床治療方式？ A)腹膜透析 B)血液透析 C)靜脈注射葡萄糖、胰島素和重碳酸鹽 D)使用離子交換樹脂 (sodium polystyrene sulfonate)
20. 針對燒傷病人的營養支持過程中，下列觀念何者錯誤？ A)常發生低血鈣與低血磷的狀況，應考量是否需額外補充 B)伴隨發燒與敗血症導致熱量需求增加為 REE (Resting Energy Expenditure) 的 2 倍以上 C)維生素 A、C、D 的缺乏會影響皮膚組織的復原速度 D)氮平衡的評估應估算皮膚傷口所流失的氮含量

**二、問答題 (60%)**

1. 試述下列營養素與疾病發生的原因 (每題5分，共10分)
    - i) Wilson's disease ii)Goiter
  2. 試述體內棕色脂肪組織的產熱反應及其調節作用 (10分)
  3. 請說明評估肝功能的生化指標 Bilirubin, unconjugated bilirubin, 和 conjugated bilirubin 的代謝過程？10%
  4. 試說明何謂 refeeding syndrome ? 10%
  5. 試說明 dumping syndrome 發生的兩個階段？其飲食治療原則為何？10%
  6. 名詞解釋 (1)ebb phase (2) flow phase (10%)
- ※ 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。  
 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。