

科目：營養學

系所組：營養科學系

page 1

一、單選題 (40%)

1. If no glucose is available from dietary carbohydrate, glucose in the blood may be derived from:
(A) muscle glycogen and liver glycogen
(B) triglyceride breakdown
(C) muscle glycogen and fatty acids
(D) sugar alcohols.
2. Once absorbed into the body, the majority of carbohydrates are ultimately transformed into glucose by the: (A) muscle tissue (B) liver (C) pancreas (D) brain cells.
3. Which of the following is a non-carbohydrate component of dietary fibers?
(A) glycogen (B) pectin (C) cellulose (D) lignin.
4. Which of the following combinations of foods would provide the most dietary fiber?
(A) Kidney bean salad, turkey sandwich on whole wheat, fresh apple, milk
(B) Ham sandwich on white bread, potato chips, iced tea
(C) Roast beef, mashed potatoes, coffee with sugar
(D) Cheeseburger (white bun, lettuce, mustard, catsup, slice of tomato, 3 oz ground beef, processed cheese slice), french fries, soft drink.
5. Eicosapentaenoic acid (EPA) is associated with
(A) Glucose metabolism
(B) Omega 3 fatty acid metabolism
(C) Omega 6 fatty acid metabolism
(D) Cholesterol metabolism.
6. Which of the following foods has the highest glycemic index?
(A) Bananas (B) Apple (C) Baked potato (D) White bread.
7. Mike has been told to reduce his fat intake to less than 30% of his total calories. It has been recommended to him that he consumes an average of 2000 calories per day. How many grams of fat should he consume?
(A) 66 grams (B) 76 grams (C) 80 grams (D) 93 grams.
8. What lipoprotein is responsible for transporting cholesterol from the liver to tissues?
(A) Chylomicrons
(B) Low density lipoprotein (LDL)
(C) High density lipoprotein (HDL)
(D) Chylomicron remnant.
9. Which statement is NOT true for fatty acid catabolism?
(A) Absorbed lipids are condensed with glycerol in the epithelial cells into triacylglycerols and re-packaged into chylomicrons that are transported by the lymphatic system and on into the bloodstream
(B) The majority of lipid digestion occurs in the duodenum by the enzyme pancreatic lipase
(C) Fatty acids are mobilized from adipose cells in response to glucagons, adrenaline, and ACTH
(D) Bile salts are important in the initial digestion of triacylglycerols in the intestine because they are coenzymes for pancreatic lipase.
10. A daily deficit of 900 to 1000 kcal should result in a loss of approximately _____ of body fat per week.
(A) 2 pounds (B) 3 pounds (C) 4 pounds (D) 5 pounds.

11. Consumption of a very-low-calorie diet can
 - (A) increase the BMR about 10% to 20%
 - (B) decrease the BMR about 10% to 20%
 - (C) decrease the BMR about 30%
 - (D) have no effect on the BMR.
12. Nitrogen makes up approximately _____ of the weight of an amino acid.
 - (A) 32% (B) 24% (C) 18% (D) 16%.
13. Eating disorders not otherwise specified are
 - (A) not really an eating disorder but more of a perception of having one
 - (B) when a person can't decide to become an anorexic or bulimic
 - (C) a broad category that includes symptoms from both anorexia and bulimia
 - (D) None of the answers are correct.
14. Edema in the lower extremities may appear when there is a severe lack of dietary protein because:
 - (A) sodium is retained in the body
 - (B) blood protein levels increase and force fluid into the cells
 - (C) blood protein levels drop and fluid shifts into interstitial spaces
 - (D) the kidneys cannot excrete the extra fluid.
15. Proteins help regulate blood pH by:
 - (A) releasing ketone-forming amino acids into the blood
 - (B) keeping the blood more acidic
 - (C) accepting and releasing hydrogen ions
 - (D) pumping potassium out of the cell.
16. Sources of vitamin B-12 include _____
 - (A) Whole grains, tuna, and eggs
 - (B) Dairy products, meat, and fish
 - (C) Citrus fruits, papayas, and bananas
 - (D) Dairy products, whole grains, and leafy green vegetables.
17. Vitamin C is required for the formation of _____
 - (A) Tryptophan
 - (B) Serotonin
 - (C) Hydroxyproline
 - (D) Acetyl-CoA.
18. The prevention of neural tube defects is best achieved by _____
 - (A) Good folate status prior to becoming pregnant
 - (B) Folic acid supplementation in the second half of pregnancy
 - (C) Folic acid supplementation during infancy
 - (D) All of the above.
19. Calcium absorption is likely to be highest in _____
 - (A) Post-menopausal women
 - (B) Adults in middle age
 - (C) Adolescent males and females
 - (D) Both a and b.
20. Low potassium intakes are associated with _____
 - (A) Eating disorder
 - (B) Diets that contain little unprocessed fresh foods and high amounts of processed foods
 - (C) Excessive alcohol intake
 - (D) All of the above.

二、簡答題 (60 %):

1. Please answer the following questions about the evaluation of food protein quality. (15%)
 - A. Biological Value (BV)
 - B. Protein Efficiency Ratio (PER)
 - C. Protein Digestibility Corrected Amino Acid Score (PDCAAS)
2. It is well documented that Vitamin C play an important roles as an antioxidant, and it promoting normal immune function. Do you agree that Vitamin C demonstrate its ability to prevent both cancer and heart disease? Please explain your reasons as detailed as possible. (10%)
3. What is DASH Diet? This diet is good for preventing what kind of disease? (10 %)
4. Please describe the absorption, transport, storage, and excretion of Vitamin D. (15 %)
5. Please explain the following terms: (10 %)
 - A. Daily Values (DVs)
 - B. Recommended Dietary Allowances (RDAs)
 - C. Adequate Intakes (AIs)

※ 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。