

科目：專業英文

系所組：營養科學

## Choice questions (2 points for each question, 50 points)

26. Which of the following is not belonging to reducing sugar?  
(A) Glucose  
(B) Fructose  
(C) Galactose  
(D) Sucrose
27. The starch can be hydrolyzed to monosaccharide by various enzymes, which of the following can hydrolyze starch to maltose and remain the limit dextrin?  
(A)  $\alpha$ -amylase  
(B)  $\beta$ -amylase  
(C) Glucoamylase  
(D)  $\alpha$ -1,6-glucosidase
28. *Clostridium botulinum* can produce the exotoxin and cause never symptoms and death, which of the following food may be produced the toxins?  
(A) Low acidic and low water activity can foods  
(B) High acidic vacuum package foods  
(C) Low acidic pickled foods  
(D) Non-vacuum package foods
29. Which of the following is belonging to Gram negative bacteria?  
(A) *Salmonella typhimurium*  
(B) *Satphylococcus aureus*  
(C) *Clostridium botulinum*  
(D) *Bacillus cereus*
30. Heavy metals accumulation can cause numerous diseases, what kind of heavy metal accumulation cause 'Itai Itai disease'?  
(A) Mercury  
(B) Cadmium  
(C) Lead  
(D) Arsenic
31. Anemia is a condition in which person's blood hemoglobin level, or hematocrit, is low than normal and can be caused by malnutrition and heredity. Thus, which of the following anemia is caused by malnutrition?  
(A) Thalassemia  
(B) Aplastic anemia  
(C) Megaloblastic anemia  
(D) Hemolytic anemia

※ 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。

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32. According to DOH number of death survey in 2010, malignant neoplasm is cause first death in Taiwan. What kind of cancer is ranking first death in Taiwan?
- (A) Breast cancer
  - (B) Colon cancer
  - (C) Liver cancer
  - (D) Lung cancer
33. Metabolic syndrome increases the risks of cardiovascular mortality and is major threat in elderly population in the world. Many simple diagnoses way can detect metabolic syndrome risk. Which of the following metabolic syndrome criteria is NOT correct?
- (A) Fasting blood sugar  $\geq 100$  mg/ml
  - (B) Total cholesterol  $\geq 150$  mg/ml
  - (C) Waist width Male  $\geq 90$  cm; Female  $\geq 80$  cm
  - (D) Systolic blood pressure  $\geq 120$  mmHg; diastolic blood pressure  $\geq 80$  mmHg
34. DNA is an important genetic component in both eukaryotes and prokaryotes. In prokaryotes replication process, DNA synthesis and replication control by replisome. Which of following enzyme is NOT involved in replisome?
- (A) DNA gyrase
  - (B) DAN polymerase I
  - (C) DNA polymerase II
  - (D) DNA polymerase III
35. Catabolism of carbohydrate in glycolysis and TCA cycle can produce energy. What is the glycolysis final product?
- (A) Pyruvate
  - (B) Acetyl-CoA
  - (C) ATP
  - (D) NADPH
36. Fatty acid can convert to acetyl-CoA by  $\beta$ -oxidation and further produce energy by TCA cycle. The major  $\beta$ -oxidation enzyme is located in what kind of organelle?
- (A) Mitochondria
  - (B) Proteasome
  - (C) Golgi body
  - (D) Nucleosome
37. Which enzyme is NOT involved in electron transfer reaction?
- (A) NADH dehydrogenase
  - (B)  $\alpha$ -ketoglutarate dehydrogenase
  - (C) Scuuinate dehydrogenase
  - (D) Cytochrome oxidase

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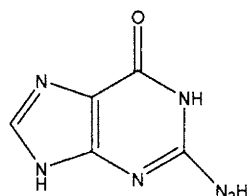
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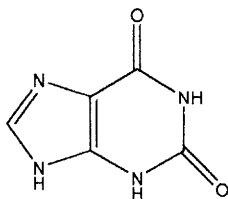
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38. Which of the following is the adenine structure?

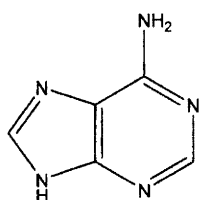
(A)



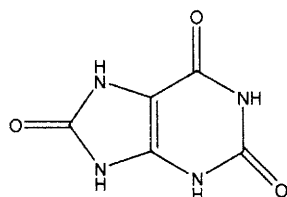
(B)



(C)



(D)



39. DNA can become damage by a variety of processes, some spontaneous, other catalyzed by environmental agents. The repair system is important mechanism to ensure the DNA completeness. Which of the following is NOT involved in DNA repair system?

(A) Mismatch repair

(B) Base-excision repair

(C) Nucleotide-excision repair

(D) Deletion repair

40. RNA have the role in the storage and transmission of information and in catalysis, which has led to much speculation about its possible role as an essential chemical intermediate in the development of life on this planet. Which of the following RNA can read the information and transfer the appropriate amino acid to a growing polypeptide chain during protein synthesis?

(A) tRNA

(B) rRNA

(C) mRNA

(D) shRNA

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41. What kind of nutrient deficiency make "Pellagra" happened?  
(A) Folic acid  
(B) Niacin  
(C) Thiamin  
(D) Pantothenic acid
42. Osteoporosis is more common in women than in men, especially in post-menopausal women. Because \_\_\_\_\_ is dramatic decrease and affect the calcium absorption.  
(A) Androgen  
(B) Estrogen  
(C) Progesterone  
(D) Testosterone
43. Minerals are also function as enzyme cofactor and catalyze many biological reactions. Which of the following mineral is role of glutathione peroxidase cofactor and help prevent oxidative stress or damage to cell structure?  
(A) Zinc  
(B) Magnesium  
(C) Iodine  
(D) Selenium
44. Which of the following lipoprotein is containing more triglyceride than others and be formed in the intestine?  
(A) High density lipoproteins  
(B) Very low density lipoproteins  
(C) Chylomicrons  
(D) Low density lipoproteins
45. People who have elevated total cholesterol or elevated LDL cholesterol are at greater risk of coronary heart disease (CHD). However, high blood HDL levels are inversely correlated disease to CHD. The ratio of LDL and HDL can be a simple indicator of risk. Which of the following is high risk of CHD?  
(A) LDL/HDL > 1  
(B) LDL/HDL > 2  
(C) LDL/HDL > 3  
(D) LDL/HDL > 4
46. Food allergies are presumed what kind of food component enter the circulation and be recognized as antigens?  
(A) Proteins  
(B) Lipids  
(C) Carbohydrates  
(D) Sugar substitute

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47. Which of the following description of lipid absorption is NOT correct?
- (A) It is synthesized in the liver and released into small intestine when fat is present.
  - (B) Bile contains cholesterol, lecithin, and bile salt.
  - (C) Bile salts help keep the triglycerides in small droplets, making them more available to digestive enzymes.
  - (D) Lipases break down triglycerides into mono-glycerides, glycerol, and fatty acids, all of which are then incorporated along with bile salt into conglomerations called chylomicrons.
48. The canine can't eat chocolate because it contains WHAT COMPONENT and this component will damage the kidney and slow the heart rate.
- (A) Theobromine
  - (B) Cathchin
  - (C) Tannic acid
  - (D) Flavonoids
49. Which of the following description of diabetes is NOT correct?
- (A) Type I diabetes is due to pancreas does not produce enough insulin and make the blood sugar can't be taken into body cells.
  - (B) Type II diabetes patient can produce adequate amount of insulin but not used morally.
  - (C) Type II diabetes always correlative with overweight.
  - (D) Type I diabetes patient should used the drug to control the blood sugar.
50. Electrophoresis can separate the protein in poly-acrylamide gel. Why electrophoresis can separate the different proteins?
- (A) Because protein have different charge
  - (B) Because protein have different structure
  - (C) Because protein have different molecular weight
  - (D) Because protein have different amino acid sequence

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