

Part I. Question 1 to 10, please choose the answer closest to the underlined word or phrase. Question 11 to 15, please choose the answer that best completes the sentence. One Answer Only. 2 points.

1. Some of the **potential** dangers to cows treated with synthetic bovine growth hormone were brought into light through the effort of some scientist.
(A) related (B) possible (C) certain (D) obvious
2. As more U.S workers spend their days at keyboards, hand injuries and lawsuits are **multiplying**.
(A) increasing (B) minimizing (C) boundary-crossing (D) profit-making
3. There are several **bodies** that match volunteers with voluntary groups, including the National Volunteering Centre.
(A) organizations (B) remains (C) people (D) motivations
4. Piaget believed that we go through four stages in understanding the world. Each of the stages is age-related and consists of **distinct** ways of thinking.
(A) new (B) simple (C) different (D) exact
5. Some people think that spoken language is **transient** but writing tends to last because of its physical medium (characters on some surface).
(A) unimportant (B) temporary (C) interesting (D) clear
6. But what most prevents women from reaching the boardroom, say bosses and headhunters, is lack of **hands-on** experience of a firm's core business.
(A) significant (B) available (C) tested (D) practical
7. Manufactured in the **tranquil** New England town of Concord, New Hampshire, the famous Concord Coach came to symbolize the Wild West.
(A) peaceful (B) bustling (C) industrial (D) tiny
8. With oil prices shooting up, the demand for big cars is **dwindling**. Now compact cars are on great demand.
(A) depressing (B) surpassing (C) decreasing (D) swirling
9. All of this she conferred on me without ever **setting foot in** the kitchen of her house.
(A) leaving (B) dressing (C) entering (D) preparing
10. In choosing your career, you should follow your heart, but you also need to be **rational**.
(A) making decisions based on intelligent thinking (B) making decisions using strong emotion of feeling
(C) making decisions because of relationships (D) making decision because of profits
11. _____ abolishing death penalty is a global trend, the public is so polarized over the issue that it requires more discussion.
(A) Because (B) Whereas (C) Although (D) In addition to
12. Women now often work areas _____ medicine, business management and higher education, which would not have been possible 100 years ago.
(A) regardless of (B) in virtue of (C) due to (D) such as
13. Both the National Cancer Institute and the World Health Organization say there isn't evidence to support the assertion that cell phones are a _____ threat.
(A) health public (B) healthy public (C) public-health (D) publically health
14. _____ on barren slopes can help prevent erosion.
(A) Planting trees (B) For trees to be planted (C) In order to plant trees (D) Trees are planted
15. Almost four in five people around the world believe that _____, a poll for the BBC World Service suggests.
(A) access the Internet is a fundamental right (B) that access to the Internet is a fundamental right
(C) fundamental right accessing the Internet is (D) the fundamental right is access the Internet

II. Question 16 to 25, please choose the best answer to fill each of the numbered blanks in the passages. 2 points each.

People communicate in many different ways and yawning is one important means of 16 communication. It gives many different 17 to people and everyone yawns. Some birds, reptiles, fish and most mammals also yawn. However, the reason why we do it is still a mystery. There is also very little research available on yawning as for most people, it is not a problematic 18. Here are a few things that are known about yawns: 1.) The 19 duration of a yawn is about six seconds; 2.) in humans, the 20 yawn happens about eleven weeks after conception; 3.) Yawns become contagious to people between the first and second years of life.

16. (A) audio (B) friendly (C) non-verbal (D) scenario
 17. (A) messages (B) funs (C) challenges (D) experiments
 18. (A) resistance (B) repeat (C) reflex (D) rejection
 19. (A) critical (B) analytical (C) terminal (D) average
 20. (A) most difficult (B) earliest (C) most fundamental (D) experiential

Culture shock can be an excellent lesson 21 human differences. The reason culture shock occurs is that we are not prepared for these differences. 22 the way we are taught in our culture, we are all ethnocentric. This term comes from the Greek root ethnos, 23 a people or group. Thus, it refers to 24 our outlook or world view is centered on our own way of life. Ethnocentrism is the belief that one's own patterns of behavior are the best: the most natural, beautiful, right, or important. Therefore, other people, 25 that they live differently, live by standards that are inhuman, irrational, unnatural, or wrong.

21. (A) on relative values and understanding (B) in relative values and in understanding
 (C) about relating values and on understanding (D) by means of relative values and understanding
 22. (A) Because of (B) Because (C) In the event of (D) In spite of
 23. (A) it means (B) it is meaning (C) meaning (D) by meaning
 24. (A) that the fact (B) the fact that (C) the fact (D) the fact that is
 25. (A) to the extend (B) by and large (C) more or less (D) drawing a line

III. Reading Comprehension. In this part, you will read several passages. Each one is followed by a number of questions. Question 26 to 40, you should choose the ONE best answer to each question. 2 points each.

Dariusz Leszczynski, a research professor at Finland's Radiation and Nuclear Safety Authority in Helsinki, has done studies indicating that radio frequency radiation may create a stress reaction in the cells that line blood vessels, leading to a dangerous breach in the blood-brain barrier. "Mobile-phone radiation may be able to indirectly hurt cells, perhaps by interfering with their ability to repair normal DNA damage," he says. "Given the scientific uncertainty, it's premature to say the use of cell phones is safe."

If radio frequency radiation increases the chances of developing brain cancer, it should show up in long-term studies of cell-phone users. But many epidemiological studies have found no clear connection, including a 2007 Danish Cancer Society study of 421,000 cell-phone users, which led many in the media to conclude that mobiles are harmless. To date, "peer-reviewed scientific evidence has overwhelmingly indicated that wireless

devices do not pose a risk," says John Walls, a spokesman for CTIA, a global wireless association.

26. According to Prof. Dariusz Leszczynski,
- (A) whether or not the use of cell phones is safe is still uncertain.
 - (B) it is proved that cell phone would impair normal DNA.
 - (C) Using cell phones will block blood vessels.
 - (D) The research on cell phones is not reliable.
27. The passage following these two passages might be about
- (A) the autobiography of Dariusz Leszczynski.
 - (B) problems with many of these studies.
 - (C) the development of brain cancer.
 - (D) peer review of cell phones.

While fats have lately acquired a bad image, one should not forget how essential they are. Fats provide the body's best means of storing energy, a far more efficient energy sources than either carbohydrates or proteins. They act as insulation against cold, as cushioning for the internal organs, and as lubricants. Without fats, energy would have no way to utilize fat-soluble vitamins. Furthermore, some fats contain fatty acids that contain necessary growth factors and help with the digestion of other food.

An important consideration of fat intake is the ratio of saturated fats to unsaturated fats. Saturated fats, which are derived from dairy products, animal fats, and tropical oils, increase amount of cholesterol in the blood. Cholesterol may lead to coronary heart disease by building up in the arteries of the heart. However, unsaturated fats, derived from vegetable oils, tend to lower serum cholesterol if taken in a proportion twice that of saturated fats.

The consumption of a variety of fats is necessary, but the intake of too much fat may lead to a variety of health problems. Excessive intake of fats, like all nutritional excesses, is to be avoided.

28. Comparing with carbohydrates or proteins, fats
- (A) store food more efficiently.
 - (B) deserve their bad image.
 - (C) consume more oils.
 - (D) provide more fluids.
- Which of the followings is the main idea of
29. The main idea of the third paragraph is that
- (A) people are eating less and less fat today.
 - (B) fats should be eliminated.
 - (C) excessive consumption of fats may be dangerous to one's health.
 - (D) fats taken in the proper proportion may reduce serum cholesterol.
30. With which of the following is the whole passage primarily concerned?
- (A) The role of fats in human health
 - (B) The dangers of cholesterol
 - (C) The benefits of fats in the diet
 - (D) The importance of good nutrition

Gender Equity

(1) In the past decade, increasing attention has been paid to the issue of gender equity in the science, technology, engineering, and mathematics (STEM) fields. Research publications, including the American Association of University Women Educational Foundation's Tech Savvy (2000) and Women at Work (2003), have documented the troubling shortage of girls and women preparing to work in these fields. In response to this "**shrinking pipeline**" of girls and women in STEM, a wide array of programs and strategies has been promoted and funded by governmental and nongovernmental organizations.

(2) The AAUW Educational Foundation and the National Science Foundation are among the top supporters of gender equity projects in the STEM fields. In the last decade alone, these two foundations have

invested nearly \$90 million to fund more than 400 projects specifically aimed at increasing the participation of girls and women in STEM fields. This body of projects presented a unique opportunity to explore the nature of gender equity intervention projects in STEM. Until now, no comparable survey of gender equity intervention projects in STEM has been done.

(3) The research for this report, led by Yasmin Kafai and a team of researchers at the University of California, Los Angeles, was guided by several overarching questions: What types of projects have been funded within and across the various STEM disciplines? Are there areas where we have concentrated our efforts, and areas we have overlooked? What patterns emerge among the project types and disciplines?

(4) The findings document impressive efforts in preparing girls and women for science, technology, engineering, and mathematics studies and careers and demonstrate a rich and diverse body of gender equity intervention projects within all STEM disciplines. About two-thirds of the projects involved extracurricular informal learning activities such as museum visits and field trips. Equally important were mentoring activities in many forms, ranging from traditional one-to-one to large-scale online versions, and professional development activities, such as course taking and network building, that were successfully integrated into projects.

(5) At the same time, the findings reveal some troubling trends. Many projects focused predominantly on career advice without providing access to necessary skill and content development. A majority of projects occurred outside the school curriculum. While such extracurricular projects can be effective and valuable, the overall lack of integration into the school curriculum suggests that gender equity remains on the margins of teaching and learning in the STEM fields. Finally, an absence of data on participant demographics and a lack of project evaluation make it difficult to determine who is being served and if and how project outcomes are being measured.

31. What does the phrase "shrinking pipeline" in paragraph refer to?

- (A) the shortage of oil supply (B) the shortage of labor supply
(C) the shortage of training programs (D) an issue that is getting smaller

32. Which of the sentences below best express the essential information in the highlighted sentence in the passage 2? (Incorrect choices change the meaning in important ways or leave out essential information.)

- (A) These projects allowed us to study the differences between men and women employed in STEM jobs.
(B) We were able to intervene when women STEM workers were being treated unfairly.
(C) Studying these projects helped to create more gender equity intervention projects.
(D) STEM jobs were able to be studied by exploring nature.

33. In paragraph 3, "Are there areas where we have concentrated our efforts, and areas we have overlooked?"

In this sentence, "we" refers to

- (A) the author and his/her coworkers. (B) people involved in creating gender equity projects.
(C) people in the STEM disciplines. (D) Yasmin Kafai and his team.

34. According to paragraph 4, what is one positive finding of this research?

- (A) the STEM field is rich and diverse (B) many projects involved mentoring opportunities
(C) girls and women are being prepared for STEM jobs (D) the quality of the questions asked

35. According to paragraph 5, what is one negative trend discovered through this research?

- (A) access to unnecessary content (B) extracurricular projects were common
(C) evaluation of the projects was too specific (D) focus on career advice

Chili peppers are decidedly an international phenomenon, spicing up regional dishes from Thailand to North Africa. In Thailand Confidential, this week's Globalist Bookshelf selection, Jerry Hopkins gives insight

to the culture and history surrounding this fiery fruit (yes, technically a fruit) and highlights how it may be one of the world's best medical miracles.

In Thailand — where restaurants rate their dishes by placing one, two, three, and sometimes four little red chilis on the menu next to the dishes' names to alert diners — I am tolerated. Barely.

A longtime friend, who is a Thai chef, used to bring home food purchased at street stalls and as she placed this on the table, she would point to one container and say, "Mine," then to another, saying, "Yours." As if to say, "Poor dear."

Thailand is not the birthplace of the Capsicum, or chili pepper; it only acts as if it is. In fact, the chili was imported, along with much else in the national diet. However, in Thailand the **per capital consumption** of the small, fiery fruit is surely as high if not higher than it is anywhere else. And it is in the use of unprocessed, fresh, ripe chilis where Thailand rings all the loudest bells.

The truth is that chili is an international phenomenon. There is a bimonthly magazine published in the United States, Chili Pepper (there is no agreement on the spelling), and a wide variety of products is available, including pepper-shaped wind chimes, bells, and strings of Christmas tree lights. There is even a Hot Sauce Club of America; members receive two new hot sauces and a newsletter every month. There is even a popular American rock and roll band that calls itself the Red Hot Chili Peppers. Yes, the band is hot.

36. From these passages, we learn that the author

- (A) enjoys chili peppers everywhere.
- (B) does not really like chili peppers.
- (C) likes to have chili peppers to go with some certain kind of food.
- (D) like to go to restaurant famous for chili peppers.

37. The best title for these passages is

- (A) Thailand and Chili peppers. (B) Chili Peppers and Spicy Dishes.
- (C) Different Tastes all over the World. (D) Chili Peppers and Globalization.

38. Based on the passages, which of the following is NOT TRUE?

- (A) That Thailand uses unprocessed, fresh, ripe chili peppers has started the popularity of chili peppers.
- (B) Thailand exports a lot of chili peppers.
- (C) Chili peppers are a kind of fruit.
- (D) Thai food is normally quite spicy.

39. What does **per capital consumption** mean?

- (A) amount consumed per person within a specific population.
- (B) capital population and its consumption.
- (C) capital with that the government provides each person for food consumption.
- (D) capital that each person can get for their daily food consumption.

40. What is the main idea of the last paragraph?

- (A) Chili peppers are very popular in the United States.
- (B) The use of chili peppers in the United States is being influenced by Thailand.
- (C) Chili peppers are made into different toys.
- (D) Chilli peppers have made a rock band very hot.

IV. Essay. 20 points.

Please write a **well-structured** essay on **how you can prepare yourself for living in a diverse and more global society** in 150 to 200 words discussing your opinions.

高雄醫學大學 99 學年度 研究所 招生考試

命題系所：醫學研究所-基礎醫學組

考試科目：解剖學

**選擇題：單選題；# 1-40 每題壹分，題目# 41-60 每題叁分。

- () 1. 細胞內包器無膜？(A) 高爾基體 (B) 核醣體 (C) 顆粒性內質網 (D) 平滑性內質網
- () 2. 以下組織中何者其「細胞外物質，非細胞物質」的組成最少？(A) 硬骨組織 (B) 血液結締組織 (C) 透明軟骨組織 (D) 複層柱形上皮組織
- () 3. 韌帶內比例最多的纖維是？(A) 彈性纖維 (B) 膠原纖維 (C) 網狀纖維 (D) 細肌絲
- () 4. 子宮動脈源自下列何者？(A) 腹主動脈 (B) 上腸系動脈 (C) 髂內動脈 (D) 腎動脈
- () 5. 下列何者不是漿膜構成的？(A) 胸膜腔 (B) 關節囊 (C) 心包腔 (D) 腹膜腔
- () 6. 以下組織中何者有良好血管分布？(A) 複層柱形上皮 (B) 簡單扁形上皮 (C) 硬骨 (D) 透明軟骨
- () 7. 頸部食道其肌肉為？(A) 骨骼肌 (B) 骨骼肌與平滑肌皆有 (C) 平滑肌 (D) 心肌
- () 8. 結締組織其基質主要是由 _?_ 製造 (A) 漿細胞 (B) 成纖維細胞 (C) 肥大細胞 (D) 巨噬細胞
- () 9. 橫隔上的三大開口為以下構造穿過，唯一例外？(A) 食道 (B) 下腔靜脈 (C) 主動脈 (D) 上腔靜脈
- () 10. 腦膜中緊貼於腦表面的是？(A) 硬膜 (B) 蛛網膜 (C) 軟膜 (D) 頭骨
- () 11. 一條神經內，許多神經纖維集成束，外包有？(A) 神經外膜 (B) 神經中膜 (C) 神經內膜 (D) 被囊
- () 12. 胃的四個區域下列何者為非？(A) 賁門 (B) 胃小彎 (C) 胃底 (D) 胃體
- () 13. 下列有關「複層鱗形上皮組織」的敘述，何者是**正確**？(A) 至少兩層 (B) 各層細胞皆是扁平狀 (C) 有微血管 (D) 各層細胞皆可進行細胞分裂
- () 14. 肺臟的營養來自下列？(A) 支氣管動脈 (B) 冠狀動脈 (C) 肺動脈 (D) 肺靜脈
- () 15. 下列何者不構成鼻腔的外側壁？(A) 額骨 (B) 翼骨 (C) 犁骨 (D) 蝶骨
- () 16. 下列何者不是肺根內的構造？(A) 肺靜脈 (B) 支氣管動脈 (C) 主支氣管 (D) 氣管
- () 17. 「心臟骨架」是由下列何種構造組成？(A) 緻密結締組織 (B) 平滑肌細胞 (C) 疏松結締組織 (D) 心肌細胞
- () 18. 下列何者不屬於上肢骨？(A) 肱骨 (B) 尺骨 (C) 脛骨 (D) 橈骨
- () 19. 胸骨角的位置相當於那兩個胸椎間之椎間盤的高度？(A) 第一、二胸椎 (B) 第二、三胸椎 (C) 第三、四胸椎 (D) 第四、五胸椎
- () 20. 下列何者無分枝供應腎上腺？(A) 下膈動脈 (B) 睪丸動脈 (C) 腎動脈 (D) 腹主動脈
- () 21. 喉返神經為下列何者之分支？(A) 迷走神經 (B) 舌咽神經 (C) 副神經 (D) 舌下神經
- () 22. 下列何者不屬於大腸的特徵？(A) 環狀皺襞 (B) 結腸袋 (C) 腸脂垂 (D) 結腸帶

- () 23. 骨單位(osteon)其中央管central canal含有？(A)黃髓 (B)紅髓 (C)血管與神經 (D)基質
- () 24. 上皮膜含有？(A)僅上皮組織一種 (B)上皮組織結合血管 (C)上皮組織結合肌肉組織 (D) 上皮組織結合結締組織
- () 25. 人類的B淋巴球是由何處產生？(A)所有的淋巴組織都可以產生 (B)闌尾 (C)骨髓 (D)胸腺
- () 26. 有關食道下列敘述是對的：(A)穿過橫膈 (B)位於氣管之前 (C)長約 10公分 (D)受隨意與自主神經控制
- () 27. 下列何者不屬於樞紐關節？(A)肘關節 (B)髖關節 (C)腕關節 (D)指間關節
- () 28. 呼吸道哪一個部位首先進入肺組織？(A)右支氣管 (B)左氣管 (C)肺葉支氣管 (D)呼吸細支氣管
- () 29. 尿道連接或穿過以下的器官。何者為非？(A)膀胱 (B)前列腺 (C)睪丸 (D)陰莖
- () 30. 硬腭(hard palate) 是由上頷骨與 骨構成。(A)額骨 (B)鼻骨 (C)腭骨 (D)篩骨
- () 31. 以下構造何者不是附屬消化器官？(A)唾液腺 (B)脾臟 (C)肝臟 (D)膽囊

題目#32-33 答案 (A)內膜 (B)中膜 (C)外膜

- () 32 靜脈壁中最厚一層？
- () 33.構成靜脈瓣？
- () 34. 下列何肌肉參與**大腿彎曲**的動作？(A)股四頭肌 (B)髂腰肌 (C)臀大肌 (D)內收大肌
- () 35. 心臟腱索的功能？(A)打開房室瓣 (B)使乳頭肌收縮 (C)防止房室瓣翻轉 (D) 打開半月瓣
- () 36. 新鮮又充滿氧氣的血液首先到達心臟的？(A)右心房 (B)左心房 (C)右心室 (D) 左心室
- () 37. 位於心房與心室間心臟的外部的特徵？(A)卵圓窩 (B)卵圓孔 (C)冠狀溝 (D)室間溝
- () 38. 房室瓣位於心臟左邊被稱為？(A)二尖瓣 (B)肺動脈半月瓣 (C)三尖瓣 (D) 大動脈半月瓣
- () 39. 下列何者是成對的腦顱骨？(A)額骨 (B)蝶骨 (C)頂骨 (D)枕骨
- () 40. 下列何者不屬於篩骨？(A)垂直板 (B)上鼻甲 (C)中鼻甲 (D)下鼻甲
- () 41. Which one(s) are **not** composed of smooth muscle: (A) trachealis muscles (B) intrinsic muscles of larynx (C) muscle layer of primary bronchi (D) muscle layer of segmental bronchi
- () 42. The portions of the respiratory system that are capable of gas exchange include: (A) respiratory bronchioles (B) alveolar ducts (C) alveoli (D) all of the above
- () 43. The membrane of endoplasmic reticulum is continuous with the membrane of the _____. (A) cell (B) mitochondria (C) nucleus (D) ribosomes
- () 44. Fat tissue is most similar to this tissue type: (A) areolar (B) bone (C) gland (D) nervous
- () 45. 韌帶延伸於甲狀軟骨與杓狀軟骨之間的是vocal ligament 與下列韌帶？(A) cricoid (B) thyrohyoid (C) vestibular (D) cricotracheal

- () 46. The postcentral gyrus is in the _____ lobe of the cortex. (A) parietal (B) temporal (C) frontal (D) occipital
- () 47. The corpus callosum allows information to travel between cerebral hemispheres. Therefore the corpus callosum contains _____ fibers. (A) association (B) projection (C) commissural (D) circular
- () 48. A polysynaptic reflex arc involves, in order, the following components: **1.** sensory neuron **2.** motor neuron **3.** Receptor **4.** one or more association neurons **5.** effector
(A) 3, 4, 1, 2, 5 (B) 3, 1, 4, 2, 5 (C) 3, 1, 2, 5 (D) 3, 2, 5
- () 49. The central canal of the spinal cord is located in the: (A) anterior white commissure. (B) anterior gray horn. (C) posterior white column. (D) gray commissure.
- () 50. The white matter of the spinal cord:
(A) contains sensory and motor, or ascending and descending, tracts.
(B) is surrounded by gray matter.
(C) is subdivided into regions called horns.
(D) all of the above.
- () 51. Lymphatic capillaries merge to form (A) lymphatic (collecting) vessels (B) lymph trunks (C) thoracic duct (D) right lymphatic duct
- () 52. Pure endocrine organs **except**? (A) Pituitary (B) parathyroid (C) thyroid (D) Pancreas
- () 53. The lining of the respiratory, digestive, reproductive, and urinary tracts contains lymphatic tissue of the type called: (A) lymphatic nodules (B) lymph nodes (C) lacteals (D) white pulp
- () 54. The _____ is the main link between the nervous system and the endocrine system, due to its control over secretory activities of the _____ gland. (A) thalamus, pituitary (B) hypothalamus, thyroid (C) brain stem, thyroid (D) hypothalamus, pituitary
- () 55. The palatine tonsils and pharyngeal tonsils (adenoids) are aggregates of lymphoid tissue located in the: (A) nasal cavity (B) pharynx (throat) (C) larynx (voice box) (D) trachea (windpipe)
- () 56. Among cartilages of the Larynx, which one is at lowest position? (A) thyroid (B) epiglottis (C) cricoid (D) corniculate
- () 57. The two lobes of the thyroid gland are joined by a mass of tissue called the _____. (A) isthmus (B) parathyroid (C) infundibulum (D) follicle
- () 58. An average adult kidney is about (_cm height x _cm wide x _cm thick): (A) 6 x 2 x 1 (B) 6 x 6 x 6 (C) 12 x 6 x 3 (D) 24 x 12 x 6
- () 59. The site of entry/exit for the renal artery and vein (A) renal sinus (B) renal hilus (C) renal cortex (D) renal fascia
- () 60. Connective tissue may contain: (A) fibroblasts (B) plasma cells (C) macrophages and mast cells (D) all of the above.

問答題，共七題

1. 粒線體 (Mitochondria) 為細胞內的胞器 (Organelle) 之一，請簡述其結構特徵及主要功能。(15 分)
2. 請簡述並圖示肌節 (Sarcomere) 的結構與組成。(15 分)
3. 請表列比較微絨毛 (Microvillus) 與纖毛 (Cilium) 的顯微構造特徵、主要存在身體的部位及其主要功能。(15 分)
4. 請簡述在中樞及周圍神經系統中，神經髓鞘形成 (Myelination) 的差異。(10 分)
5. 請簡述血液中白血球 (Leukocytes) 的主要種類及它們主要的功能。(10 分)
6. 請繪圖表示腎臟 (Kidney) 中過濾障壁 (Filtration barrier) 的組成，並說明其過濾作用的選擇機制。(20 分)
7. 請圖示並標示小腸 (Small intestine) 管壁的分層，以及各層中主要構造。(15 分)

1. 何種線蟲同時有自由生活成蟲(free-living adult)及寄生性成蟲(parasitic adult)? 請敘述其完整的生活史，並依感染嚴重性說明其病害。(15%)
2. 請寫出 3 種組織寄生的條蟲(tissue-dwelling cestodes)，人體感染的途徑、感染後引起的病害及如何診斷?(15%)
3. 舉出日常飲食可媒介寄生蟲的 4 種食物，並寫出其媒介的吸蟲(trematodes)各一種。以簡圖說明其共同的生活史，並敘述感染後引起的病害。(15%)
4. 請敘述感染痢疾阿米巴(*Entamoeba histolytica*)及梨形鞭毛蟲(*Giardia lamblia*)在人體腸道的致病機轉、引起的病害及如何診斷?(15%)
5. 請簡述下列寄生蟲感染的流行病學特徵及如何防治?(10%)
 - (a) Hookworm
 - (b) *Angiostrongylus cantonensis*
6. 請簡述下列各項(每小題各 2%，共 20%)
 - (a) Katayama disease
 - (b) Sparganosis(branching type)
 - (c) Plerocercoid
 - (d) Metacercaria
 - (e) Kala-azar
 - (f) String test
 - (g) Beef tapeworm infection
 - (h) Scotch tape perianal swabs
 - (i) Xenodiagnosis
 - (j) African sleeping sickness
7. 請簡述下列蟲卵或原蟲的特徵。(每小題 2%，共 10%)
 - (a) *Hymenolepis nana*
 - (b) *Plasmodium falciparum* (Gametocyte form)
 - (c) *Schistosoma haematobium*
 - (d) *Pneumocystis carinii* (Cyst form)
 - (e) *Ascaris lumbricoides* (fertilized form)

Multiple choice (單選題), 3% for each question 答案請寫在試題紙，請依題號順序作答)

- ___ 1. The colonies of *Pseudomonas aeruginosa* normally appear blue-green color. Among the culture plates, a graduate student observed a white colony. After sequencing the nucleic acid of affected gene, the data revealed an additional insert within its coding sequences. The insert contains inverted repeats flanked at both ends. Which of the following is the most likely candidate for the insert?
- (A) plasmid
 - (B) transposon
 - (C) phage
 - (D) exogenous chromosome
- ___ 2. Which of the following is NOT involved in the prokaryotic genome replication?
- (A) primase-helicase
 - (B) single-stranded DNA binding protein
 - (C) DNA polymerase
 - (D) histone
- ___ 3. Which of the following is NOT found in *Escherichia coli*?
- (A) peptidoglycan
 - (B) nucleus
 - (C) ribosome
 - (D) DNA gyrase
- ___ 4. Which of the following is derived from the host for an envelope virus, for instance herpes simplex virus type 1 (HSV-1)?
- (A) envelope
 - (B) nucleocapsid
 - (C) capsid
 - (D) viral genome
- ___ 5. The human papillomavirus (HPV) type 16 and 18 are strongly associated with the development of cervical carcinoma. Which of the following is the least likely involvement?
- (A) Decrease p53 by binding to HPV E6.
 - (B) Decrease retinoblastoma (RB) protein by binding to HPV E7
 - (C) Increase production of extracellular matrix protein
 - (D) Increase host genome instability

- ___ 6. Which of the following belongs to artificially acquired passive immunity?
- (A) vaccination with attenuated virus or bacteria
 - (B) the transfer of antibodies, as from a mother to her fetus
 - (C) the production of a cellular immune response or antibodies
 - (D) injection of preformed antibodies such as immunoglobulin
- ___ 7. Which of the following regarding the transmissible spongeform encephalopathy (TSE, prion disease) is false?
- (A) Human produces prion-like protein
 - (B) Prions are possibly resulted from misfolding protein.
 - (C) Prions from animals (sheep, cow or deer) consumed by human are suspected to associate with Creutzfeldt-Jakob disease of human
 - (D) Prion-related diseases are not heritable.
- ___ 8. Which of the following is the most sensitive technique in the identification of un-culturable microbes?
- (A) Polymerase chain reaction
 - (B) DNA sequencing
 - (C) Mass spectrometry
 - (D) ELISA (Enzyme-Linked ImmunoSorbent Assay)
- ___ 9. An infectious agent that appears to have no protein coding sequence is a
- (A) prion
 - (B) bacteriophage
 - (C) viroid
 - (D) virus
- ___ 10. Which of the following biomarker is the best choice to *in situ* monitor the microbial growth in a biofilm?
- (A) Green fluorescent protein
 - (B) Luciferase
 - (C) Chloramphenicol acetyl transferase
 - (D) β -galactosidase
- ___ 11. A negative regulator represses the replication of ColE1 plasmid. Which of the following is the most likely outcome for the bacteria harboring the ColE1 plasmid with the deletion of the negative regulator sequence?
- (A) Bacteria can not grow.

- (B) The mutant ColE1 plasmid can not replicate in the bacteria.
- (C) Multiple copies of mutant ColE1 accumulate in the bacteria.
- (D) Bacteria grow rapidly.

- ___ 12. Which of the following is NOT involved in humoral immunity?
- (A) the production of immunoglobulins
 - (B) the production of cytotoxic T cells
 - (C) a memory cell response
 - (D) the production of plasma cells
 - (E) antigen-antibody interaction

(13 ~ 17) Choose the related microbe from the right panel. (3% for each question)

- | | |
|----------------------------|-------------------|
| ___ 13. Cholera | A. Corynebacteria |
| | B. Prophage |
| ___ 14. Diphtheria | C. Dengue virus |
| | D. Rabies |
| ___ 15. Lysogenic bacteria | E. Clostridium |
| | F. Vibrio |
| ___ 16. Aedes egyptae | |
| ___ 17. Tetanus | |

(18 ~ 22) Explain term and function, 5% for each question (請依題號順序作答，中文或英文均可。)

- 18. NF- κ B
- 19. Toll-like receptors
- 20. Yeast two-hybrid assay
- 21. RNA interference (RNAi)
- 22. Shine-Dalgarno sequence

(23 and 24) Essay question, 12% for each question (問答題，中文或英文均可)

Since early 1980, there are more than 60 million people are infected with HIV (human immunodeficiency virus). In 2009, the outbreak of influenza viruses H1N1 triggers the global alert on emerging pathogens.

- 23. Please describe and compare the underlying mechanism(s) contribute to the high variation of HIV and influenza virus. (12%)
- 24. Please describe and compare the difficulties in generation of the effective vaccines against HIV and influenza virus. (12%)

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高雄醫學大學 99 學年度研究所 招生考試
命題系所：醫學研究所-基礎醫學組
考試科目：實驗診斷學

2010 實驗診斷學碩士班考題 (1 至 6 題各佔 15 分 第 7 題 10 分)

1. 試述結核性桿菌之實驗室診斷
2. 試述病毒之分離(isolation)
3. 試述 Prothrombin Time, Partial thrombin time 以及其延長之原因
4. 試述敗血症之血液學實驗室診斷
5. 試述檢驗之敏感度及特異度
6. 試述血中藥物濃度偵監
7. 試舉例說明 PCR 在檢驗上之應用

1. 選擇題 (60%) 共 8 頁

1. Which of the following terms is not used to describe a parameter of DNA topology?

- a. wobble
- b. writhe
- c. twist
- d. linking number

2. Which structural property of DNA is crucial for the conservation of genetic information?

- a. antiparallelism
- b. the ability to form a double helix
- c. base-pair complementarity
- d. all of the above

3. Which of the following are removed from mRNAs during processing?

- a. exons
- b. noncoding sequences
- c. RNA cap structure
- d. poly(A) tail

4. The base in the wobble position of a codon

- a. is the 5' (first) base.
- b. is the 3' (third) base.
- c. is the second base.
- d. often contains adenine.

5. RNA composes all or part of

- a. termination factors.
- b. small nuclear ribonucleoproteins.
- c. DNA polymerase.
- d. ribozymes.

6. Which of the following is not a recognized stage of protein synthesis in both prokaryotes and eukaryotes?

- a. elongation
- b. initiation
- c. translation
- d. termination

7. Which of the following factors recognizes the UAG, UAA, and UGA codons?

- a. RNA polymerase
- b. DNA polymerase
- c. termination factors
- d. elongation factors

8. Which of the following structures interacts with ribosomes?

- a. tRNA
- b. mRNA

- c. rRNA
- d. all of the above

9. Which of the following is not required for both DNA replication and RNA transcription?

- a. DNA
- b. primers
- c. RNA
- d. proteins

10. Which of the following lead(s) to a point mutation?

- a. deamination of a cytosine base into a uracil base
- b. benzo(a)pyrene conversion of guanine to a thymine base
- c. deamination of 5-methyl cytosine into thymine
- d. all of the above

11. When p53 activated during severe DNA damage, which of the following occur(s)?

- a. It induces apoptosis.
- b. It is a transcription factor.
- c. It serves as a tumor suppressor.
- d. all of the above

12. Which of the following are enzymes that play a key role in the base excision repair of nucleotide mismatches and damaged bases?

- a. glycosamines
- b. glycosidases
- c. glycosylases
- d. none of the above

13. A mutation that changes a cysteine codon to a tryptophan codon is called

- a. a missense mutation.
- b. a nonsense mutation.
- c. a frameshift mutation.
- d. a silent mutation.

14. Crossing of a homozygous wild type with a mutant that is heterozygous for a dominant mutation will result in F₁ progeny of which

- a. all show the mutant phenotype.
- b. half show the wild-type phenotype and half show the mutant phenotype.
- c. three-fourths show the wild-type phenotype and one-fourth show the mutant phenotype.
- d. all show the wild-type phenotype.

15. A mutation in one gene that counteracts the effects of a mutation in another gene is known as a

- a. temperature-sensitive mutation.
- b. recessive mutation.
- c. conditional mutation.
- d. suppressor mutation.

16. Which of the following enzymes will produce a blunt end (the cut site is indicated by the * in the recognition sequence)?

- a. *TaqI* (T*CGA)
- b. *EagI* (C*GGCCG)
- c. *EcoRV* (GAT*ATC)
- d. *NsiI* (ATGCA*T)

17. Which of the following is a functional element of a plasmid?
- origin of replication
 - drug-resistance gene
 - polylinker sequence
 - a and b
 - all of the above
18. All the following statements about λ phage are true except:
- λ phage lyse *E. coli* upon release of newly synthesized phage.
 - Foreign DNA up to approximately 50 kilobases can be cloned into λ phage.
 - Both cDNA and genomic DNA can be cloned into λ phage.
 - λ Phage consists of a head and tail region.
19. The polymerase chain reaction (PCR) technique can be used for
- direct isolation of a specific segment of genomic DNA.
 - preparation of probes.
 - synthesis of RNA from genomic DNA.
 - a and b
 - all of the above
20. Southern blotting is used to detect a specific
- DNA.
 - RNA.
 - protein.
 - carbohydrate.
 - all of the above
21. A mutation that changes the recognition sequence for the restriction enzyme *EcoRI* from GAATTC to GATTTTC is an example of a
- restriction fragment length polymorphism (RFLP).
 - single nucleotide polymorphism (SNP).
 - simple sequence repeat (SSR).
 - a and b
 - all of the above
22. Linkage studies can map disease genes with a resolution of about one centimorgan. Typically, a DNA region this size could contain about _____ genes.
- 1 or 2
 - 10–50
 - 100–200
 - 1000–2000
23. A haplotype is a set of closely linked genetic markers on a particular chromosome that tend to be inherited together. The genetic technique that looks at inheritance patterns and uses haplotypes in determining gene locations is
- linkage mapping.
 - linkage disequilibrium mapping.
 - candidate gene approach.
 - all of the above.

24. Which of the following is a typical feature of prokaryotic genes?
- polycistronic messenger RNAs
 - complex transcription units
 - introns
 - a and c
25. In eukaryotes, tandemly repeated genes encode
- rRNAs.
 - cytoskeletal proteins.
 - globin.
 - all of the above
26. Which of the following organisms has the greatest amount of DNA per cell?
- chicken
 - fruit fly
 - tulip
 - human
27. All the following statements about microsatellite DNA are true except
- It consists of a repeat length of 1–13 base pairs.
 - It can cause neurological diseases such as myotonic dystrophy.
 - It can occur within transcription units.
 - all of the above
28. Mobile DNA elements likely contributed to the evolution of higher organisms by the
- generation of gene families by gene duplication.
 - creation of new genes by exon shuffling.
 - formation of more complex regulatory regions.
 - all of the above
29. All of the following statements about mitochondrial DNA are true except
- Mammalian mitochondrial DNA contains introns.
 - In mice, 99.99 percent of mitochondrial DNA is maternally inherited.
 - Mitochondrial DNA encodes rRNAs and tRNAs.
 - The human mitochondrial genome is smaller than the yeast mitochondrial genome.
30. How many genes are estimated to be in the human genome?
- 25,000
 - 35,000
 - 75,000
 - 100,000
31. All the following statements are true about a nucleosome except
- It contains an octamer core of histones
 - It is about 10 nm in diameter
 - It is the “string” of the “beads-on-a-string” appearance
 - It contains approximately 150 base pairs of DNA

32. All of the following can be found in chromatin except

- a. DNA.
- b. histones.
- c. RNA.
- d. transcription factors.

33. In mammals, X-chromosome inactivation

- a. occurs in half the diploid cells of the adult female.
- b. results from the ionization of the X-chromosome.
- c. is considered an epigenetic event.
- d. b and c

34. Chromosome painting involves

- a. staining chromosomes with Giemsa reagent.
- b. hybridizing fluorescent probes to chromosomes.
- c. hybridizing radioactive probes to chromosomes.
- d. a and b

35. All the following statements about heterochromatin except

- a. It is a dark-staining area of a chromosome.
- b. It is usually transcriptionally active.
- c. It is often simple sequence DNA.
- d. It is a region of condensed chromatin.

36. Operator constitutive mutants of the *lac* operon would

- a. express the *lac* repressor constitutively.
- b. block the binding of RNA polymerase to the promoter.
- c. express β -galactosidase constitutively.
- d. prevent the inducer from binding to the repressor.

37. How does binding of the *lac* repressor to the *lac* operator block transcription initiation?

- a. *lac* repressor binding blocks RNA polymerase from interacting with DNA at the start site
- b. *lac* repressor binding induces a DNase that cleaves the DNA at the transcription start site
- c. *lac* repressor binding causes a conformational change in RNA polymerase
- d. *lac* repressor binding induces a protease that degrades the sigma subunit of RNA polymerase

38. All of the following statements about the essential carboxy terminal domain (CTD) of RNA polymerase are true except

- a. The CTD is present in RNA polymerase I, II, and III.
- b. The CTD can become phosphorylated.
- c. The CTD is critical for viability.
- d. The CTD of mammals contains more than 50 repeats of a heptapeptide.

39. An enhancer

- a. is a DNA element that stimulates transcription of eukaryotic promoters.
- b. binds to RNA polymerase and stimulates transcription.
- c. acts as a binding site for RNA polymerase.
- d. interacts with repressor proteins to enhance transcriptional repression.

40. The TATA box

- a. serves as a promoter sequence for genes transcribed by RNA polymerase III.
- b. is located approximately 100 base pairs upstream of the start site for mRNAs.
- c. is present in all eukaryotic genes.
- d. acts to position RNA polymerase II for transcription initiation.

41. All the following elements can function as eukaryotic promoters except

- a. a TATA box.
- b. an initiator element.
- c. CpG islands.
- d. an enhancer.

42. Which of the following proteins does not “footprint” the *lac* operon control region?

- a. lac repressor
- b. β -galactosidase
- c. RNA polymerase

43. Which of the following is not a structural motif found in a DNA-binding domain?

- a. homeodomain
- b. zinc-finger
- c. helix-loop-helix
- d. random-coil acidic domain

44. Which of the following is the correct order of binding of general transcription factors to initiate transcription at RNA polymerase II promoters?

- a. TFIID, TFIIB, Pol II, TFIIF
- b. PolII, TFIID, TFIIB, TFIIF
- c. TFIIB, PolII, TFIIF, TFIID
- d. TFIID, TFIIF, TFIIB, PolII

45. What is the function of TFIIF in the transcription initiation complex?

- a. binding to the TATA box
- b. unwinding the DNA duplex
- c. catalyzing the synthesis of RNA
- d. all of the above

46. All the following statements about heterochromatin are true except

- a. Heterochromatin stains more darkly with DNA dyes than does euchromatin.
- b. Heterochromatin contains more highly condensed DNA than does euchromatin.
- c. Heterochromatin is associated with inactive genes.
- d. Heterochromatin is more susceptible to DNaseI than is euchromatin.

47. The mediator complex

- a. can form a molecular bridge between activators of transcription and DNA replication machinery.
- b. can function to maintain a promoter in a hypoacetylated state.
- c. has histone acetylase activity.
- d. none of the above

48. Transcriptionally inactive genes

- a. are always located within euchromatin.

- b. are not located within nucleosomes.
- c. often are methylated.
- d. are not resistant to DNase I.

49. Which of the following statement(s) regarding the transcription initiation and RNA Pol III is (are) true?

- a. ATP hydrolysis is not required for initiation.
- b. Pol III is responsible for synthesizing tRNAs and 5S-rRNA.
- c. The promoter elements of tRNA genes lie entirely within the transcribed sequence.
- d. all of the above

50. The consensus sequence for poly(A) addition is

- a. the site of poly(A) tail addition.
- b. AAUAAA.
- c. downstream of the cleavage site.
- d. none of the above

51. Histone mRNAs lack

- a. poly(A) tails.
- b. introns.
- c. a 3'UTR.
- d. all of the above

52. Which process involves two transesterification reactions?

- a. splicing
- b. RNA editing
- c. capping
- d. nuclear transport

53. Splice sites in pre-mRNA are marked by two universally conserved sequences contained

- a. in the middle of the intron.
- b. at the ends of the exons.
- c. at the ends of the introns.
- d. none of the above

54. Indicate the order in which the following steps occur in the production of a mature mRNA.

- a. initiation of transcription, splicing, addition of 5' cap, addition of poly(A) tail, transport to cytoplasm
- b. initiation of transcription, addition of 5' cap, splicing, addition of poly(A) tail, transport to cytoplasm
- c. initiation of transcription, addition of poly(A) tail, addition of 5' cap, splicing, transport to cytoplasm
- d. initiation of transcription, addition of 5' cap, addition of poly(A) tail, splicing,

55. Components of the spliceosome include

- a. a single snRNP containing several different snRNAs
- b. proteins that react immunologically with the sera of patients with systemic lupus erythematosus
- c. U5 snRNA, which interacts with the 5' splice site in pre-mRNA
- d. all of the above

56. Which of the following does not require protein enzymes?

- a. RNA editing
- b. excision of group II introns

- c. transsplicing
- d. excision of group III introns

57. Which of these events does not occur within the nucleus?

- a. RNA editing in mammals
- b. RNA capping
- c. polyadenylation
- d. RNA editing in protozoans

58. Which type of RNA participates in nuclear export of mRNA?

- a. snRNA
- b. hnRNA
- c. tRNA
- d. rRNA

59. microRNAs play a key role in which of the following?

- a. translational repression
- b. viral RNA degradation
- c. RNA interference
- d. all of the above

60. The 45S pre-rRNA molecule

- a. can organize a nucleolus when present in a single copy.
- b. is encoded by genes that are tandemly arranged.
- c. is methylated on specific bases.
- d. all of the above

2. 簡答及問答題 (40%)

1. A double-stranded piece of DNA containing the sequence GCATGGCCACTACCG has a higher T_m than one containing the sequence GAATGGTAACAACCTG. Describe the properties of DNA that make this true. (5%)
2. If perfect Watson-Crick base pairing were demanded between codons and anticodons, cells would need 61 different tRNAs. If there are only 20 amino acids used in protein synthesis, how would you explain this excess number of tRNAs compared to amino acids? Conversely, how would you explain the fact that some cells contain fewer than 61 tRNAs? (5%)
3. What is the difference between lytic and lysogenic bacteriophages? (5%)
4. Describe some typical features of a restriction enzyme recognition sequence. (5%)
5. Compare the advantages and limitations of microarrays and Northern blots for analyzing gene expression. (5%)
6. How can linkage analysis position genes on a chromosome? (5%)
7. In animal cells, nearly all cytoplasmic mRNAs have a 5'-Cap and 3' poly(A) tail, which is added to the pre-mRNA before splicing. What proteins are involved in polyadenylation? How is the 5'-Cap added to nascent RNAs? Indicate their order of association with pre-mRNA and their functions. (10%)

(以中文或英文答題皆可)

1. Please describe the electrical activity of the heart measured by electrocardiogram (ECG). (10%)
2. Distinguish between primary active transport and secondary active transport, and between cotransport and countertransport. Give examples of each. (15%)
3. The process by which action potentials cause muscle contraction is termed excitation-contraction coupling. Please compare the mechanism of excitation-contraction coupling in striated muscle with that in smooth muscle. (15%)
4. What regions of the cerebral cortex are important for language and why? (15%)
5. What role does glutamate play in neuronal injury during ischemia? (15%)
6. What would be the effect of an increase in plasma albumin (the most abundant plasma protein) on glomerular filtration rate (GFR)? (10%)
7. Your friend Bob has the talent to be a star basketball player – if only he weren't five foot eight. Since you're a good friend, you start injecting him with growth hormone as he sleeps each night. You think this is good for him, but after a time you notice that he hasn't grown an inch. Instead, his jaw and forehead seem to become disproportionately large and his hands and feet are swollen.
 - (a) Explain why the growth hormone didn't make Bob grow taller and why it had the effect it did?
 - (b) What disease state do these changes mimic? (10%)
8. A patient has a low red blood cell count, and microscopic examination of his blood reveals an abnormally high proportion of circulating reticulocytes. Upon subsequent examination, the patient is diagnosed with a bleeding ulcer. This is surgically corrected, and in due course his blood measurements return to normal. What was the reason for the low red blood cell count and high proportion of reticulocytes? (10%)

1. 請解釋下列名詞之涵義(24%)
 - a. Risk Difference
 - b. Risk Ratio
 - c. Population Attributable Risk Percent
 - d. Health promotion
 - e. Total Fertility Rate
 - f. Maternal mortality

2. 為因應氣候變遷對地球衝擊，2009 年底舉辦哥本哈根氣候變遷高峰會議，提出全球暖化溫度必須控制在攝氏 2 度以內，並協助開發中國家對抗氣候變遷等共識。請問全球氣候變異對公共衛生的衝擊有那些?公共衛生應採取之因應對策為何?(18%)

3. 世界衛生組織的資料指出到 2025 年時，全世界將有 61%的人口住在城市裏，然而高度的城市發展，將面臨許多社會、衛生及生態問題。因此世界衛生組織倡導健康城市計畫之發展，並提出了 32 項健康城市指標。請問健康城市的遠景為何?並請你舉出其中五項健康城市指標?(18%)

4. 何謂公共衛生監測(Public Health surveillance)?目前國內監測系統包括法定傳染病監視通報、定點醫師監視通報、學校傳染病監視、合約實驗室病毒監視通報、新感染症症候群監視通報等，請依上述各種監視系統，分別說明對於傳染病防治之重要性? 並舉一例來說明之?(20%)

5. 請閱讀下列論文摘要及圖表，並回答下列問題: (20%)

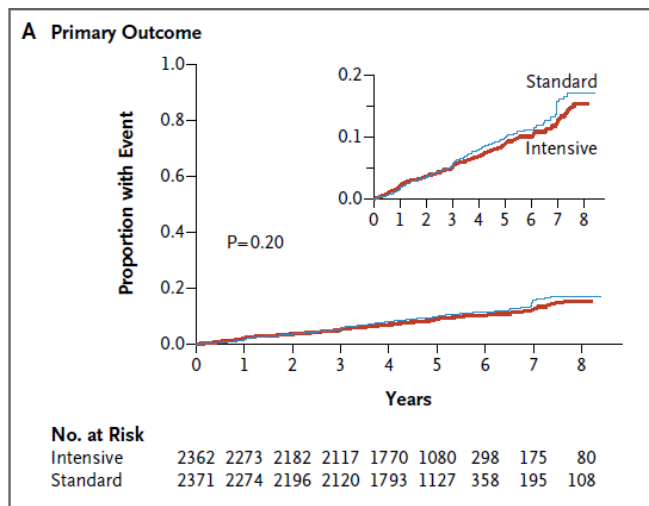
The ACCORD Study Group. **Effects of Intensive Blood-Pressure Control in Type 2 Diabetes Mellitus.** N Engl J Med N Engl J Med 2010

Background: There is no evidence from randomized trials to support a strategy of lowering systolic blood pressure below 135 to 140 mm Hg in persons with type 2 diabetes mellitus. We investigated whether therapy targeting normal systolic pressure (i.e., <120 mm Hg) reduces major cardiovascular events in participants with type 2 diabetes at high risk for cardiovascular events.

Methods: A total of 4733 participants with type 2 diabetes were randomly assigned to intensive therapy, targeting a systolic pressure of less than 120 mm Hg, or standard therapy, targeting a systolic pressure of less than 140 mm Hg. The primary composite outcome was nonfatal myocardial infarction, nonfatal stroke, or death from cardiovascular causes. The mean follow-up was 4.7 years.

Results: After 1 year, the mean systolic blood pressure was 119.3 mm Hg in the intensive therapy group and 133.5 mm Hg in the standard-therapy group. The annual rate of the primary outcome was 1.87% in the intensive-therapy group and 2.09% in the standard-therapy group (hazard ratio with intensive therapy, 0.88; 95% confidence interval [CI], 0.73 to 1.06; $P = 0.20$). The annual rates of death from any cause were 1.28% and 1.19% in the two groups, respectively (hazard ratio, 1.07; 95% CI 0.85 to 1.35; $P = 0.55$). The annual rates of stroke, a prespecified secondary outcome, were 0.32% and 0.53% in the two groups, respectively (hazard ratio, 0.59; 95% CI, 0.39 to 0.89; $P = 0.01$). Serious adverse events attributed to antihypertensive treatment occurred in 77 of the 2362 participants in the intensive-therapy group (3.3%) and 30 of the 2371 participants in the standard-therapy group (1.3%) ($P < 0.001$).

Conclusions: In patients with type 2 diabetes at high risk for cardiovascular events, targeting a systolic blood pressure of less than 120 mm Hg, as compared with less than 140 mm Hg, did not reduce the rate of a composite outcome of fatal and nonfatal major cardiovascular events. (ClinicalTrials.gov number, NCT00000620.)



- 1.本研究的研究設計為何?
- 2.請解釋randomly assigned ?
- 3.為何要以 standard-therapy group 為對照組?可否以 intensive therapy group 做前後比較?
4. The annual rates of stroke were 0.32% and 0.53% in the two groups, respectively (hazard ratio, 0.59; 95% CI, 0.39 to 0.89; $P = 0.01$) , 請問此數據的意義為何?
- 5.請你為上述研究結果來做一個結論。