

I. Please choose the fittest answer to complete the sentence in each question. (60%)

1. () Do you think ____ is easier than to act?
(A) talking (B) about to talk (C) of taking (D) to talk
2. () I am not sure of ____ the table.
(A) where putting (B) where being put (C) where to put (D) where to be put
3. () Here almost everyone has a lap-top, ____ a mobile.
(A) to say nothing of (B) not to speak (C) to speak nothing of (D) no more to say
4. () Maria studies harder than ____ at that corner.
(A) the boy who seated (B) the boy is seated (C) is the boy seated (D) does the boy seat
5. () They seemed ____ for hours when we met them yesterday.
(A) that they had walked (B) that they walked (C) to have walked (D) as if had walked
6. () He is ____ young ____ school.
(A) too, for go to (B) so, to go to (C) too, to go to (D) too, to going to
7. () He is given to pleasure = He does nothing but ____ pleasure.
(A) pursue (B) to pursue (C) deny (D) denying
8. () All the spectators desired nothing but ____ an exciting game.
(A) there being (B) there be (C) there is (D) there to be
9. () Flattery cannot help ____ your end.
(A) to gaining (B) gain (C) gaining (D) for gaining
10. () This plan is sure ____.
(A) to fail (B) of failing (C) of failure (D) to be failed
11. () Any ____ person may apply for this position.
(A) interest (B) interesting (C) interested (D) interests
12. () I am tired of eating ____.
(A) freezing meat (B) boiling egg (C) can fish (D) fried potatoes
13. () The watch ____ to May is very expensive.
(A) which is belonged (B) belonging (C) belonged (D) belongs
14. () There stood a lime tree ____ with apples fresh and wet with dew.
(A) to load (B) loading (C) being loaded (D) loaded
15. () They returned ____.
(A) to defeat (B) to defeating (C) defeating (D) defeated
16. () The accused ____ of trespassing on privacy.
(A) stood accused (B) to stand accused (C) stood accusing (D) of standing accusing
17. () She seemed ____ at my question.
(A) annoy (B) annoying (C) to annoy (D) annoyed
18. () I saw the key ____ here this morning.
(A) laying (B) laid (C) lain (D) having laid
19. () As he entered the room, he found many books ____ scattered on the floor.
(A) laying (B) to lay (C) lying (D) lie
20. () A thief slipped in ____ and caught on the very spot.
(A) observing (B) observed (C) unobserving (D) unobserved
21. () ____ being a fine day last Sunday, we went mountain climbing.
(A) For (B) It (C) As (D) The weather

22. () Everyone ____, the dinner began.
(A) was seated (B) seated (C) were seated (D) sat
23. () Ginna plays tennis so well that, ____ the proper training, she may well become a creditable professional.
(A) give (B) she is given (C) giving (D) given
24. () My shoes ____ worn out, I had to buy a new pair.
(A) was (B) has been (C) having (D) being
25. () As a desert is like a sea, ____ a camel like a ship.
(A) and the same as (B) so does (C) so that (D) so is
26. () I know a better doctor than does Sam.
(A) The doctor I know is better than Sam
(B) Sam knows a doctor who is better than I am
(C) Sam knows a doctor who is better than himself
(D) The doctor I know is better than the doctor Sam knows
27. () We could hardly help our tears.
(A) If we could help it, we would not burst out laughing
(B) We were not in a position to shed tears
(C) We shed tears in spite of ourselves
(D) We helped ourselves to tears
28. () He cannot speak English, not to mention German.
(A) He can speak either English or German
(B) He can speak neither English nor German
(C) He can speak both English and German
(D) He can speak not English but German
29. () She is a graduate student, but her scholarship is not good enough, not to speak of practical experience.
(A) For all her scanty scholarship, she is a good mixer
(B) She is fresh from school
(C) Her practical experience is nothing to speak of
(D) We do not have the slightest idea of her practical experience
30. () Our business is too great a success not to excite envy in the rivals.
(A) The rivals will be pleased to hear our exciting success
(B) Our successful business will leave the rivals cold
(C) The rivals will think lightly of our success in business
(D) The rivals are sure to be jealous of our success

II. Please choose the most appropriate answer from the word bank for each blank in the essay.
(20%)

[Word Bank .]

(1) a very unequal business (2) brain drain (3) ethical recruitment policies (4) global health budget (5) key (6) lack (7) shortages (8) stark (9) struggling to cope (10) train more staff

The statistics in the World Health report are (31). The continents of North and South America have just ten per cent of the world's burden of disease but thirty-seven per cent of the world's health workers, and spend over fifty per cent of the total (32). The continent of Africa has twenty-four per cent of the world's disease, just three per cent of the world's health workers and less than one per cent of the budget.

Access to health care is (33). Of the fifty-seven countries which (34) health workers, thirty-six of them are in sub-Saharan Africa, the very same countries which are (35) with the AIDS epidemic.

The World Health Organization says the (36) are undermining not just the battle against deadly diseases like AIDS, tuberculosis and malaria; they're affecting childhood vaccination campaigns and basic care for pregnant women.

The reasons for the shortages are many, but money is (37). Rich countries need more doctors and nurses too, and salaries are higher than in Africa. The WHO says developing countries are suffering a (38) of health professionals.

The report calls for (39) for migrant health workers and international investment to help poor countries (40) because at the moment the world is short of four-million health workers and one-point-three-billion people lack even the most basic health care.

III. Composition: write about the work of the world, the people who do it, and things that are worth doing well (20%).

1. 試舉例說明 Homeostasis 在生理功能上的重要性(10%)
2. 以生殖系統為例解釋 positive feedback & negative feedback (10%)
3. 請分別舉例說明各種不同性質及大小的分子在細胞膜運送(membrane transport)的方式 (10%)
4. 如果某人有長期血糖過高的症狀出現, 你覺得會有哪些可能性病因?(10%)
5. 病人體內缺乏某種蛋白質(如消化酵素 Lipase)時, 他的問題可能由於哪幾個層面的異常?(10%)
6. 請說明你對生理及分子醫學的哪一個領域特別有興趣, 並請敘述緣由(10%)
7. 試述基因選殖(gene clone), 基因降減(gene knock-down), 及基因過度表現(gene overexpression) 在生理及醫學研究的應用(10%)
8. 請試述諾貝爾生理及醫學獎之頒獎原則及你所知悉的得獎事蹟(10%)

9. 下列三段文字請擇一簡短翻譯成中文(20%)

註: 不懂的專有名詞可以不用翻譯

(A) Dopamine affects cellular immune functions during polymicrobial sepsis

OBJECTIVE: To determine whether infusion of dopamine modulates cellular immune functions and survival during systemic inflammation. DESIGN AND SETTING: Randomized animal study. SUBJECTS: Male mice. INTERVENTIONS: Mice were subjected to laparotomy or polymicrobial sepsis induced by cecal ligation and puncture (CLP). Mice in each of these conditions received either an intraperitoneal infusion of 0.9% saline or an intraperitoneal infusion of dopamine. Metabolic data and survival were monitored 24h and 48h after onset of sepsis, and animals were terminated 48h after induction of sepsis to determine splenocyte apoptosis, splenocyte proliferation, splenocyte IL-2, IL-6 and IFN-gamma release and leukocyte distribution. MEASUREMENTS AND RESULTS: Infusion of dopamine in septic mice increased splenocyte apoptosis and decreased splenocyte proliferation and IL-2 release of septic mice. Furthermore, an inhibitory effect of dopamine infusion on splenocyte proliferation and the release of the TH1-cytokines IL-2 and IFN-gamma was observed in sham operated control mice. These effects were paralleled by a decreased survival of dopamine-treated septic animals. Treatment with dopamine did not affect sepsis-induced changes of leukocyte distribution. CONCLUSIONS: We conclude that dopamine is capable of modulating cellular immune functions in a murine model of sepsis.

(B) Management of menopause.

Menopause signifies the permanent cessation of ovarian function and the end of a woman's reproductive potential. A universal experience in women's aging, it is the culmination of many years of reproductive aging; a process that unfolds as a continuum from birth through ovarian senescence to the menopausal transition and the postmenopause. The menopausal transition is known to play a major role in the etiology of many symptoms common in middle age and may contribute to chronic conditions and disorders of aging such as osteoporosis, cardiovascular diseases and cancer. Recent data suggest an unacceptable increase in morbidity in a number of women using hormone therapy (HT). Thus, during the past few years, many women and doctors have revised their opinions on HT for menopause-related symptoms, and a substantial number of individuals have discontinued its use because of concerns about side-effects, owing to this, numerous alternatives to HT are promoted, and researches have pointed out the interest in a group of molecules such as selective estrogen receptor modulators (SERMs) (i.e. raloxifene) and phytoestrogens. Further studies may open a new panorama in patient-specific management of postmenopausal health. Careful assessment of the midlife woman allows for individualized risk-benefit analysis with the formulation of a specific health management plan.

(C) Mechanisms of early brain injury after subarachnoid hemorrhage.

Apoptosis is the term given to programmed cell death, which has been widely connected to a number of intracranial pathologies including stroke, Alzheimer's disease, and more recently subarachnoid hemorrhage (SAH). Subarachnoid hemorrhage is a disease, without any form of effective treatment, that affects mainly the young and middle aged and as a result is responsible for severe disability in otherwise healthy and productive individuals. Despite intense research efforts in the field, we currently possess a very limited understanding of the underlying mechanisms that result in injury after SAH. However, a number of studies have recently indicated that apoptosis may be a major player in the pathogenesis of secondary brain injury after SAH. As a result, the apoptotic cascades present a number of potential therapeutic opportunities that may ameliorate secondary brain injury after SAH. Experimental data suggest that these cascades occur very early after the initial insult and may be related directly to physiologic sequela commonly associated with SAH. It is imperative, therefore, to obtain a thorough understanding of the early events that occur after SAH, which will enable future therapies to be developed.