

高雄醫學大學 108 學年度學士後醫學系招生考試試題

科目：英文

考試時間：80 分鐘

說明：一、「選擇題」用 2B 鉛筆在「答案卡」上作答，修正時應以橡皮擦擦拭，不得使用修正液（帶），未遵照正確作答方法而致電腦無法判讀者，考生自行負責。

二、「非選擇題」部分以「答案卷」作答，作答時不得使用鉛筆，違者該科答案卷不予計分；限用黑色或藍色墨水的筆書寫。

三、試題、答案卡及答案卷必須繳回，不得攜出試場。

I. Vocabulary: 20 points

【單選題】每題 1 分，共 20 題，答錯 1 題倒扣 0.25 分，倒扣至本大題零分為止，未作答，不給分亦不扣分。

A. Please choose the word closest in meaning to each underlined word.

- Fallen rocks are impeding the progress of rescue workers.
(A) constructing (B) destructing (C) imposing (D) obstructing (E) proposing
- In order to avoid attacks from predators, many animals are good at feigning death.
(A) arranging (B) encroaching (C) hibernating (D) pretending (E) stimulating
- Susan should have called Mr. Chang earlier. She was admonished for not responding to his complaint in a timely manner.
(A) disregarded (B) illuminated (C) reprimanded (D) stipulated (E) transcribed
- Don't bother Cindy now. She is bombarded with a plethora of e-mails this morning.
(A) herald (B) prospect (C) surplus (D) torment (E) venture
- Everyone should be aware that responsibilities and rights are reciprocally connected.
(A) barely (B) mutually (C) normally (D) similarly (E) strongly
- I saw the two men exchanging glances. This seemed to be a covert signal that they had lied to me.
(A) accustomed (B) concealed (C) manifested (D) prevailed (E) tangled
- When we meditate and focus on our minds and bodies, we will develop feelings of tranquility.
(A) activeness (B) agitation (C) exploration (D) serenity (E) ubiquity
- A series of concurrent, related developments have significantly reduced the utility of the gasoline tax.
(A) homogeneous (B) instantaneous (C) miscellaneous (D) simultaneous (E) spontaneous
- The heinous crime shocked the public and the police now encourage people who know anything about it to come forward.
(A) arduous (B) atrocious (C) dolorous (D) laborious (E) vigorous
- These two guys were involved in an altercation and were arrested by the police later.
(A) confinement (B) connotation (C) consortium (D) conspiracy (E) contretemps

B. Please choose the best answer to complete each sentence.

- Ben is a self-starter. He is good at working alone without constant _____.
(A) accusation (B) conception (C) implication (D) restoration (E) supervision
- Was he so ungrateful as to bear a _____ against the man who had saved them?
(A) courage (B) grudge (C) nudge (D) plunge (E) sponge
- Belinda spent too much time on her work to the _____ of her marriage. Now, her husband decides to get divorced with her.
(A) detection (B) determiner (C) detonation (D) detriment (E) detritus
- We advise those who intend to _____ the law should be prepared for the endless pursuit of the police.
(A) concatenate (B) constrict (C) contravene (D) convalesce (E) converse
- Memory problems are typically one of the first signs of cognitive _____ related to Alzheimer's disease.
(A) commission (B) impairment (C) legislation (D) precaution (E) sentiment
- If this is your first visit to this hospital, you need to complete this survey about your _____ and psychological conditions.
(A) adiabatic (B) chromatic (C) dogmatic (D) schematic (E) somatic
- The _____ system is responsible for carrying blood or other liquids around the bodies of animals.
(A) binocular (B) curricular (C) muscular (D) semicircular (E) vascular

18. If we pay attention to advertisements carefully, we will find their words are very ornamented and _____. We can't trust them easily.
 (A) amphibious (B) curvaceous (C) extraneous (D) judicious (E) pretentious
19. The buildings are uninhabitable and have to be made _____ until that air conditioning system can start up again.
 (A) adjacent (B) patient (C) radiant (D) salient (E) vacant
20. Public trust in Facebook has been _____ by a year of privacy scandals and data breaches.
 (A) plagued (B) pleaded (C) pleased (D) plopped (E) plucked

II. Grammar and Structure: 10 points

【單選題】每題 1 分，共 10 題，答錯 1 題倒扣 0.25 分，倒扣至本大題零分為止，未作答，不給分亦不扣分。

A. Please choose the best answer to complete each sentence.

21. Advertising _____ young adults can be destructive, so it should be controlled.
 (A) aimed at (B) is aimed at (C) has been aiming at (D) is aiming at (E) aim at
22. _____ its inherent danger, many people believe that nuclear energy is a clean and potentially inexhaustible source of energy.
 (A) Due to (B) Even though (C) Given that (D) In case (E) In spite of
23. The Wangs wanted to give their only daughter every advantage. However, they now regret _____ her with too many material possessions.
 (A) provided (B) having provided (C) having been provided
 (D) to have provided (E) to have been provided
24. Could you please help me to turn off the stove? The soup _____ for about twenty minutes.
 (A) has been boiling (B) was boiling (C) is boiling (D) boiling (E) boiled
25. I would have visited you _____ someone told me you were in the hospital.
 (A) had (B) if (C) since (D) that (E) then

B. For each sentence, please choose the underlined part that contains ungrammatical use of English.

26. Recent technological breakthroughs have exponentially reduced the cost of data storage, making that easier and less expensive to store more data than ever before.
 (A) (B) (C)
 (D) (E)
27. Children who move to a foreign country adapt much more easily than their parents, by picking up the language and customs of their new home in no time.
 (A) (B) (C) (D)
 (E)
28. The English in the eighteenth century thought of their society as was made up of distinct ranks, with the aristocracy at the top, and laborers and the poor at the bottom.
 (A) (B) (C) (D)
 (E)
29. Japan's Mamiko Higa on Friday birdied her final hole to maintain her lead at the US Women's Open Championship, which the second round was delayed for two hours due to thunderstorms and then suspended because of darkness.
 (A) (B)
 (C) (D) (E)
30. People often decide whether to open an e-mail based on the subject line, so choosing one that lets readers know you are addressing their concerns or business issues.
 (A) (B) (C) (D)
 (E)

III. Reading Comprehension: 40 points

【單選題】每題 2 分，共 20 題，答錯 1 題倒扣 0.5 分，倒扣至本大題零分為止，未作答，不給分亦不扣分。

Please read the following excerpts/passages closely and then choose the best answer for each of the questions according to the contents.

Since 1991, Wenlock Books, an award-winning independent bookshop, has served readers in the Shropshire. However, this bookstore is now being forced to close and its owner, Ann Dreda, places the blame **squarely** on the rise of Amazon.

Ann Dreda said the decision is a hard one, for she has adored being there in the high street, making wonderful connections with her customers. Due to her illness and customers' growing preference for shopping online, she is forced to close the store

by the end of June. Dreda has worked at the shop since 1991, and took over from the previous owner in 2003. A review of the shop in *Guardian* in 2005 called it “**nothing short of a gem.**”

Despite the fact that the number of independent booksellers has now risen for two years in a row, Dreda is not the only indie feeling the pinch. Jason Burley, owner of Lock Books, will close his bookstore in July and says that his decision is a result of different factors.

Meryl Halls, Booksellers Association managing director, said the organization was always upset when bookshops closed. This, according to Halls, is especially true when the organization sees two iconic bookshops leaving the trade.

31. Which of the following words is a synonym of the word, “squarely”?
(A) circuitously (B) directly (C) effusively (D) indefinitely (E) unfairly
32. Which of the following statements is **WRONG**?
(A) Ann Dreda and Jason Burley are owners of independent bookstores.
(B) Dreda and Burley decided to close their bookstores for various reasons.
(C) Lock Books is an independent bookstore.
(D) Customers nowadays no longer buy books at a bricks-and-mortar store.
(E) There are in fact more and more independent bookstores.
33. What does the phrase “**nothing short of a gem**” mean?
(A) Something important and valuable
(B) Something of little significance
(C) Something shining and stony
(D) Something in lack of certain qualities
(E) Something germane
34. Which of the following statements can be inferred from the article?
(A) Wenlock Books has served readers since 1991.
(B) Jason Burley, owner of Lock Books, faces financial problems.
(C) Booksellers Association tries to prevent independent bookstores from closing.
(D) Booksellers Association contends that Amazon should take the blame.
(E) The rise of Amazon is the sole reason for independent bookstores to be closed.
35. What is the best title for this article?
(A) Wenlock Books, an Iconic Independent Bookstore
(B) Independent Bookstores, a Rising Trade
(C) Ups and Downs of Lock Books
(D) Pros and Cons of Independent Bookstores
(E) Problems of Online Bookstores

It’s no surprise that livestock animals like cows, sheep, and goats love gnawing on grass. Grazing is what they do, because their stomachs are able to digest all of the cellulose in grass. But unlike these animals, dogs are omnivores, related to meat-eating hunters like wolves. Yet, if you own a dog, you may have seen your dog snacking on grass while out in your backyard or on a walk. So why do dogs eat grass? Is it totally normal dog behavior?

Though eating grass might seem unusual for dogs, it’s actually a fairly common habit that many dog owners have noticed. Though canines were historically carnivorous, they actually evolved as omnivores that would eat whatever was available, including vegetation. Also, the animals that dogs’ ancestors would eat were usually herbivores, so when the wild dogs killed and ate their prey, they’d by extension be eating whatever the prey animals ate — plant life.

So, their wild ancestors ate vegetation, but what’s the reason domesticated dogs still do it — and why do dogs eat grass, specifically? Well, different dogs might eat grass for different reasons. It’s usually nothing more than a sign of boredom in dogs. Or, your pup could simply like the taste or texture of grass, like a human munching on a celery stick. If your dog eats a lot of it, eating grass regularly could be a sign that your dog is not getting enough fiber and is seeking out natural herbs to eat.

36. What is the best title for the passage?
(A) Why do cows love grass?
(B) Why do dogs eat grass?
(C) Why are wolves omnivorous?
(D) Why are canines carnivorous?
(E) Why do human beings eat celery?

37. What does “omnivore” mean?
- (A) An animal that eats only meat (B) An animal that eats only plants
 (C) An animal that eats both meat and plants (D) A hunter that domesticates canine animals
 (E) A hunter who poaches endangered animals
38. Which of the following statements is **TRUE**?
- (A) Dogs historically ate only meat. (B) It’s unusual that dogs eat grass.
 (C) Dog’s ancestors did not eat herbivores. (D) Wild dogs never ate vegetation.
 (E) Domesticated dogs eat only grass.
39. Based on the passage, why do domesticated dog eat grass?
- (A) Grass cures their diseases. (B) Grass kills germs. (C) Grass is easy to digest.
 (D) Grass is palatable to them. (E) Grass contains sufficient protein.
40. What can be inferred from the passage?
- (A) Dogs have difficulties digesting plants. (B) Dog ancestors were vegetarians.
 (C) Domesticated dogs eat differently from wild dogs. (D) Eating grass is boring to dogs.
 (E) Dogs’ eating habits were influenced by their prey.

The newly-approved version of the World Health Organization’s global manual of diagnoses no longer classifies transgender health issues as mental and behavioral disorders. Instead, this latest version places issues of gender incongruence under a chapter on sexual health. As the news comes out, Human Rights Watch says this change will have a “liberating effect worldwide.”

In the latest manual, gender incongruence is defined as a marked and persistent incongruence between a person’s experienced gender and assigned sex. Compared with this latest manual, known as ICD-11, the previous one considers the issue of gender incongruence as a gender identity disorder in the chapter on mental and behavioral disorders.

Commenting on the revisions, Graeme Reid, lesbian, gay, bisexual, and transgender right directors at Human Rights Watch said, “Governments should swiftly reform national medical systems that still use this **outdated** diagnosis.”

Meanwhile, nine organizations working on gender identity said that the revised version demonstrates that full depathologization can be achieved, **even though this improvement is by no means perfect.**

41. Which of the following statements is **CORRECT**?
- (A) ICD-11 is the old version of WHO’s manual.
 (B) Gender incongruence refers to the difference between a person’s physical sex and psychological gender.
 (C) Human Rights Watch harshly criticizes ICD-11.
 (D) In the latest manual, transgenders are considered guilty.
 (E) Nine organizations work with WHO to revise the manual.
42. Which of the following statements is **NOT MENTIONED** in the article?
- (A) Graeme Reid is a human right activist.
 (B) Human Rights Watch claims the new version will have positive effects.
 (C) In the latest manual, issues of gender incongruence are included in a new chapter.
 (D) So far, WHO has recognized all the LGBT groups.
 (E) At least nine organizations are not fully satisfied with WHO’s latest manual.
43. Which of the following words is **NOT** a synonym of the word, “outdated”?
- (A) antiquated (B) chronic (C) obsolete (D) outmoded (E) outworn
44. What does the sentence “**even though this improvement is by no means perfect**” imply?
- (A) This latest manual is beyond contentment.
 (B) This latest manual lives up to everyone’s expectation.
 (C) This latest manual liberates the difficult situations that transgenders face.
 (D) This latest manual makes lives of transgenders more difficult.
 (E) This latest manual still needs revision.
45. What is the best title for this article?
- (A) Transgender, a New Category of Human Beings
 (B) Transgender, a New Challenge
 (C) Transgender, No Longer a Disorder
 (D) Transgender, No Longer an Issue
 (E) Transgender, No Further Discussion

Edd Hammill, an ecologist at Utah State University, first got an inkling that insecticides might not be having their intended effect while conducting research in orange plantations in northern Costa Rica. #A

Hammill and his team surveyed where the mosquitoes were coming from: bromeliads, a group of plants found in warm parts of the Americas, often growing on tree branches. The water-filled spaces between their tightly overlapping leaves host a whole community of insect larvae, including mosquitoes of the species *Wyeomyia abebela*. #B

The team looked at bromeliads in plantations—some of which had been treated with insecticides for more than twenty years—and in untreated forests. The Costa Rican growers use **dimethoate** to treat their orange trees for plant lice, but it kills many other insect species too. #C

Hammill’s team found that despite all the insecticide, the orange plantations were hosting twice as many mosquitoes as the pristine forests. But damselfly larvae—a major predator of larval mosquitoes—were **conspicuously** missing from the plantations. #D

When the researchers took the insects into the lab and exposed them to varying levels of dimethoate, they found that the plantation mosquitoes tolerated concentrations ten times higher than the forest mosquitoes. But the plantation damselflies had evolved no such resistance. #E

The resistant mosquitoes thus appear to have found a sweet spot: a nursery habitat for their young that is devoid of predatory damselflies. There, they flourish.

46. What is the passage mainly about?
(A) Hammill explored how to kill the mosquitoes.
(B) Mosquitoes often grow on branches of bromeliad.
(C) Damselfly larvae increased dramatically.
(D) Mosquitoes are eaten by damselfly larvae.
(E) Pesticides can increase the number of mosquito.
47. What is dimethoate?
(A) One kind of pesticide (B) One kind of insect species (C) One kind of crop
(D) One kind of orange tree (E) One kind of mosquito
48. Where did Hammill’s research team study mosquitoes?
(A) In southern Costa Rica
(B) In pristine forests only
(C) In orange plantations only
(D) In both pristine forests and orange plantations
(E) In the places which had been treated insecticides only
49. What does “conspicuously” mean?
(A) admirably (B) deliberately (C) intolerably (D) moderately (E) prominently
50. Where is the best place to insert the sentence, “In the U.S. it’s widely used on citrus, corn, and other crops”?
(A) #A (B) #B (C) #C (D) #D (E) #E

IV. Essay Writing: 20 points

Write an essay of at least 200 words in an appropriate style on the following topic.

In recent years, a wide range of medical robots have been in use. Inevitably, more and more work in the medical field will be done not only by us humans. Discuss how medical doctors can work with robots to help their patients in the future.

高雄醫學大學 108 學年度學士後醫學系招生考試試題參考答案疑義釋疑公告

科目	題號	釋疑答覆	釋疑結果
普通生物學	2	<p>種化有很多理論學說，地理隔離是從「地理學」的角度來看種化的模型。</p> <p>從「地理學」的角度來看種化的模型，地理隔離的種化指的是，族群之間因地理完全隔離的情況，被隔離的族群完全遇不見，完全阻絕了兩個族群的基因交流，長期累積變異而導致種化。</p> <p>海洋很難形成地理完全隔離的情況，考生提出 isthmus 是區域性阻礙，海洋其實還是相通的。另外提到海水及淡水的例子也不恰當，因為在海水淡水交界處，生物是自由遷移的，在「地理學」的角度，並沒有沒有隔離作用。故本題維持原答案(B) land snail。</p>	答案維持原議 (B)
	8	<p>大部分課本都寫 cytokinin 主要功能為修改頂端優勢，促進側芽生長及枝條分枝。Auxin 主要功能為促進細胞伸長、不定根形成。</p> <p>植物扦插繁殖時經常使用 auxins 類的生長激素，促進插穗的發根，cytokinin 雖然也會調節根中的細胞分裂，但是促進側芽生長及枝條分枝功能更強。植物扦插後使用 cytokinin 可強烈的促進芽的始生，而非根的形成。</p> <p>題目為 Which of the following hormones is most useful for promoting the growth of the root after plant cuttings? 要挑選的是「扦插後最有效」的植物激素，故本題維持原答案(B) Auxin。</p>	答案維持原議 (B)
	11	<p>E 選項題及涉及多種 clotting factors 會是有爭議之處。</p> <p>凝血反應中，由多種凝血因子共同催化，其中包含 Prothrombin 轉變成 Thrombin；最後再由 Thrombin 催化 Fibrinogen 成 Fibrin。故依照題意及選項，可以考慮選項 C 以及 E 都在描述凝血反應中 fibrinogen 轉變成 fibrin 的過程。</p>	答案更改為 (C)或(E)

科目	題號	釋疑答覆	釋疑結果
	12	<p>原題” Which of the following type of leukocyte would play a role as “antigen presenting cells” and trigger the MHC class II mediated immune response?”題目中想要問的問題為(1)可作為”antigen presenting cells(2)並使其誘導 MHC class II mediated immune response，兩者皆為充要條件。</p> <p>從1978年以來， macrophage 便被認為是專職的(professional) APC細胞，並透過MHC class II與T細胞之TCR 相結合誘發免疫反應，這是普通 生物學當中相當基礎的概念，也是本題命名的旨趣。</p> <p>考生申覆所提出的資料為2004年的回顧性文獻。在文章當中提及在激活的狀態下human & mice的T細胞具有表現MHC class II receptor的現象，並透過分子生物學的研究方法，作者想要引導我們去接受，這種在T cells 表現MHC II賦予T cells 具備 antigen presenting 的功能。細看本篇 review article，作者在論述T lymphocyte 的MHC II 表現是否意味著可以作為antigen presenting 的部份(文獻p 285，section of “CAN ACTIVATED T CELLS PRESENT ANTIGENS?”其實並未有凝聚多數科學家的共識，例如文獻中引註之參考文獻36，標題為” Human T cells cannot act as autonomous antigen-presenting cells, but induce tolerance in antigen specific and alloreactive responder cells.”，即不認為T cells具有antigen presenting的功能。作者所提出的觀點或許有其可能，然直至今目前為止，該論點並未為科學界所全盤接受。</p> <p>考量本考題原即言明為單選試題，考生應就待選事項中選擇最為可能的答案，顯然的， macrophage 會比 T lymphocytes 更為適合，故維持原本答案。</p>	<p>答案維持原議 (D)</p>

科目	題號	釋疑答覆	釋疑結果
	32	<p>在學術上，珊瑚是指一群能夠堆積鈣質骨骼或骨針的腔腸動物。在分類上，包括花蟲綱(Anthozoa)的六放珊瑚、八放珊瑚和水螅蟲綱(Hydrozoa)的水螅珊瑚等三大類。例如，臺灣海域常見的千孔珊瑚(Milleporidae)，就屬於水螅蟲綱。花蟲綱(Anthozoa)的六放珊瑚、八放珊瑚，的確如Campbell Biology課本所說的，沒有medusa stage。不過，水螅珊瑚是有水母體的，尤其是在有性生殖時，水母體是很重要的，詳細資料可以在書Advances in Marine Biology, 第 50 卷 (2006) 第 27 頁、期刊報告Morphological and genetic evaluation of the hydrocoral <i>Millepora</i> species complex in the Caribbean (Zoological Studies 2014, 53:4. https://doi.org/10.1186/1810-522X-53-4)等資料找到。</p> <p>所以這個題目答案更新為 (A) 或 (D)。若是考生只學到珊瑚就是花蟲綱動物，那答案就是 (A)，若是學生知道珊瑚包含六放珊瑚、八放珊瑚和水螅珊瑚，那答案就是 (D)。</p>	答案更改為 (A)或(D)
	37	<p>1. 在(C) The bottom of the loop of Henle of the juxtamedullary nephron 以及(E) The innermost medullary collecting duct 的組織間隙的確皆能發現最大 osmolarity 的存在，但是此題幹的受試者是在喝了大量蒸餾水後接受測量，其體液中 ADH 的濃度應大量下降，因此集尿管對水的回收大為減少，會排出大量 hypotonic urine，因此(E)選項不能選，正確答案為(C)。</p> <p>2. 普通生物學有許多課本，Freeman版的Biological Science, 6th edi. P.894, Fig.40.14(b)直接畫出此情況。Campbell版的p.1040, Fig. 44.14 雖然沒有顯示ADH的影響，但是在隨後p. 1044, Fig. 44.19 即闡明ADH對集尿管的影響。此題實屬普通生物學的程度。</p>	答案維持原議 (C)

科目	題號	釋疑答覆	釋疑結果
	40	<p>1. 當心室開始收縮時，心室壓急遽上升，心室壓超過心房壓時導致房室瓣關閉，此時產生第一心音。</p> <p>2. 心室繼續收縮，心室壓繼續上升，高於動脈壓，導致主動脈瓣開啟，此時血液由心室注入主動脈(射血期開始)，導致主動脈壓上升。在此心室收縮期中會記錄到主動脈的收縮壓(B)。</p> <p>在心室收縮晚期由於大量血液離開心室注入主動脈，心室壓開始下降；同時由於注入主動脈的血流量逐漸少於由主動脈到周邊組織的血流量，主動脈壓亦開始下降。因此心室壓與主動脈壓的最高點均早於心室收縮期(射血期)的終止。</p> <p>3. 在心室收縮的晚期，心室壓與主動脈壓的壓力差梯度已經反轉(主動脈壓>心室壓，此情況在 Guyton, Fig. 9-7 中相當清楚)，但此時血流仍有動量尚未反轉。當心室開始舒張時(A)，由於主動脈壓繼續大於心室壓，在此時造成主動脈瓣關閉，產生第二心音(也意味著心室舒張的開始)，之後由於心室繼續舒張，心室壓低於心房壓，導致房室瓣開啟(C)，血液由靜脈經由心房流入心室，造成心室血液體積增加(E)。</p> <p>4. 最後，下一次心周期的 P wave of the ECG 產生(D)，心房收縮，再將少量血液注入心室。</p> <p>5. 此題目問的是第一心音發生之後 ~ 第二心音發生之前(在 Guyton, Fig. 9-7 心音圖中，以紅色震盪標示的 1st 和 2nd 之間)，所以是心室的收縮期，只有(B)可以選。</p>	答案維持原議 (B)
	50	<p>亨氏環下降支主要對水可通透，但對鹽類和其他溶質不可通透。E 選項敘述確實與腎髓質高滲透度的建立無關。答案誤植。</p>	更正為(E)
	52	答案誤植。	更正為(B)

科目	題號	釋疑答覆	釋疑結果
	53	<p>原題為：” Which one of the following hormones could raise the level of basal metabolic rate (BMR)? (A) Calcitonin (B) Thyrocalcitonin (C) Triiodothyronine (D) Dexamethasone (E) Parathyroid hormone”</p> <p>題目言明，下列何種 hormone 可以增進身體基礎代謝率。Hormone 係指人體製造，能調節生理機能的化學物質，選項 D 中的 Dexamethasone 為人工合成的 corticosteroid，不應屬於 hormone 的定義範圍，應視為藥品。故本題答案維持原議。</p> <p>註：依據 Longman Dictionary of contemporary English 字典中關於 hormone 的描述：a chemical substance produce by your body that influence its growth, development and condition.</p>	<p>答案維持原議 (C)</p>
	54	<p>本題出自”human physiology” Stuart Ira Fox 著 (11 版) Chapter 7 的部分。在該書以及考生所提之資料上，均將 Histamine 歸為 胺類而非胺基酸，這點並無爭議。然細究其 Histamine 的生成，實為 L-histidine 經 Histidine decarboxylase 作用所產生，命題上的” amino acid and the derivative”有其模糊地帶，同意考生申覆，修正為”無正確答案”</p>	<p>更正為 無正確答案</p>
	60	<p>Glucose 進行 cellular respiration 過程中，在醱解過程前幾個反應步驟確實有消耗 ATP，但整體而言(包括醱解,TCA 與電子傳遞鏈)是 ATP 產生反應。所以，以整體而言認為 cellular respiration 是 ATP 產生反應，也可以接受。以此觀點同意答案(C)也算錯誤。</p>	<p>答案更改為 (C)或(D)</p>

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科目	題號	釋疑答覆	釋疑結果
生化概論	29	此題主要是要問histone上的 <u>??</u> 胺基酸與DNA的結合方式，basic residues <u>lysine and arginine</u> (正電質蛋白)以 <u>ionic bonds</u> 和 <u>H鍵</u> 與DNA acidic sugar-phosphate backbone (負電質)結合。所以選項(D)也正確。 Ref: Lehninger: Principles of Biochemistry 7th edition P.973	(A) (D) 兩選項均正確
	62	此處 amide nitrogen 指的是 C-N bond (peptide bond)，根據 Pauling 對 alpha-helix 的定義: C-N 上的 C=O 會與鄰近第四個胺基酸 C-N bond 上的 H 形成 H bond。 Ref: Lehninger: Principles of Biochemistry 7th edition P.120	維持原答案 (B)
	72	依照 intermediate 的定義，CoA-SH 為產物，但並不參與繼續反應產生 acetone。 Ref: Lehninger: Principles of Biochemistry 7th edition P.669	(D) (E) 兩選項均正確
	77	本題所討論的是有關 branched chain amino acids & 其代謝異常會導致 maple syrupurine disease。因此此題主要就是要問利用 α -keto acid dehydrogenase complex 的 branched chain amino acids 為何，與其他 amino acids 無關，因此答案是 Leucine, Isoleucine, Valine 選項 (C)。 Ref: Lehninger: Principles of Biochemistry 7th edition P.703	維持原答案 (C)
	79	此題主要是要問經由選項中的兩種物質間的轉化可以產生可提供purine 的primary source of one carbon unit。Serine hydroxymethyltransferase可以催化serine \rightleftharpoons glycine 轉化。過程中可以提供合成purine 的 formate 的來源。選項(C)serine; glycine為正確答案。 Ref: Lehninger: Principles of Biochemistry 7th edition P.692 & P.891	維持原答案 (C)
	80	Melting temperature (t_m): the temperature at which half the DNA is present as separated single strands. 此題的第 5 個敘述是錯誤的描述。 Ref: Lehninger: Principles of Biochemistry 7th edition P.295	維持原答案 (E)
	82	除了選項(B) 3' \rightarrow 5' exonuclease 是 reverse transcriptase 沒有的酵素功能外，其他 4 個選項都是正確的描述。 Ref: Lehninger: Principles of Biochemistry 7th edition P.1064	維持原答案 (B)
	83	DNA gyrase (DNA topoisomerase II) relieves torsional strain generated by unwinding DNA . 第 1 個敘述:是正確描述。 Ref: Lehninger: Principles of Biochemistry 7th edition P.997	維持原答案 (D)

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科目	題號	釋疑答覆	釋疑結果
物理	14	題目為:何者不正確? 該題 B. D 皆為錯誤選項, D 選項 $U=-P \cdot E$; 當 P 與 E 夾角為 π 時, 有最大的 U。該題 B 或 D 皆可以選擇。	B 或 D

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科目	題號	釋疑答覆	釋疑結果
化學	61	答案(B)為近年發展的新技術，因此本題答案皆正確。	送分
	78	一般實驗的操作以 (C) 最適合，但考慮避免 Cyclohexanone(I) self-condensation，(A)亦可接受。因此答案為(A) 或 (C) 均可。	A 或 C 均可
	87	The axial S-F bonds are longer because the two fluorine atoms must share bonding to the p_z orbital on sulfur, while the equatorial fluorine atoms interact with p_x and p_y orbitals. 因此原答案不變。	維持原答案 A
	88	答案無誤。	維持原答案 E
	89	題目 HCO^{3-} 應更正為 HCO_3^- ，故本題送分。	送分