

112 年國防法務官考試試題

科目：國文（作文）與英文

考試時間：2 小時

座號：_____

※注意：禁止使用電子計算器。

甲、作文部分：（50 分）

- (一)請以藍、黑色鋼筆或原子筆在申論試卷上由左至右橫式作答，於本試題上作答者，不予計分。
(二)不得於試卷上書寫姓名或座號。

亞里斯多德是博學的哲學家，當時很多有爭議的問題都會請他論斷是非。其中有一題就是：輕重兩物落下，何者掉得快？亞里斯多德的想法很直覺：「輕的物體有向上浮的趨勢，重的物體有向下掉的趨勢，所以重的一定比輕的要掉得快。」

這想法延續了二千年左右，直到義大利物理學家伽利略提出：排除自由落體的空氣阻力，就可以觀察到輕物和重物同時著地。

伽利略的思辨過程是先同意亞里斯多德的說法：重的比輕的掉得快，接著把重的和輕的綁在一起，再和重的做比較。綁在一起的應該比重的更重，所以會掉得更快，結果符合亞里斯多德的結論：重的比輕的要快，更重的比重的更快。

但是，如果我們把重物想成是一匹快馬，輕物想成是一匹慢馬，把兩匹馬綁在一起，慢馬會「拖慢」快馬的速度，速度反而會變慢，不會更快。所以綁在一起的兩物，應該掉得更慢才對。

兩種推論都沒有瑕疵，既然推論沒有問題，就是前提（重的掉得快）出了問題，伽利略的結論是：重的和輕的應該同時著地。

伽利略決定在比薩斜塔上，把不同重量的兩顆鐵球自由落下，看看何者會先著地。但因為當時比薩斜塔已經是瀕危建築，當局並沒有同意伽利略在比薩斜塔上做實驗。無論如何，伽利略提出人類的直覺或推論不足以獲得真相，應該要以實驗來證明對錯，不應該相信權威，應該相信大自然。

伽利略的想像後來由波以耳用實驗證明出來。但是，他為什麼要提出一個當時根本做不出來的想像實驗呢？為的就是回到最單純的情況，拿掉干擾的因素，把雜訊排除掉，讓真相顯露出來。

在人類想像的實驗裡檢視合理性的專業人才，逐漸形成了理論物理學家；而在實驗室裡操作設備的專業人才，成了實驗物理學家。理論物理學家負責理論的架構；實驗物理學家則利用現代科技，設計實驗設備，驗證理論的正確性。這兩種人才合作無間、互相砥礪、相輔相成，克服了許多困難。

中央研究院天文及天文物理研究所參與「事件視界望遠鏡 (Event Horizon Telescope, EHT)」國際合作計畫，格陵蘭望遠鏡是計畫中重要的一環，而其關鍵的電子機械技術就是來自臺灣。繼 2019 年拍攝出人類史上第一張黑洞照片後，2021 年又公布 M87 星系中心最新的偏振光影像，可進一步解析首張黑洞影像周圍的磁場結構。黑洞原來是理論上的產物，沒想到能觀測出來，藉由全球網路串接各地的天文望遠鏡，利用特別的實驗方法，看到了黑洞的真面目，這是人類天文學上的另一個里程碑。

人類從想像實驗一路走來，理想（理論）與現實（實驗）來回激盪出許多科學和科技上的奇蹟，追本溯源是人類本身就有求真求知的欲望，渴望知道雜訊裡的真相。

同樣的，當今社會充斥很多需要分辨的情況，如：不同法官對同一個案件有不同的判決、不同醫師對同一個病人的診斷有時有很大的差異、不同面試官對於是否錄取求職者意見也不相同，甚至就連同一個法官、醫師與面試官在不同的時間也會做出不同的判斷。為什麼會這樣？因為，只要有判斷，就會有「雜訊」，而且在日常生活中，雜訊比我們以為的還要多，這是必須迫切正視的問題，唯有正視雜訊，減少誤判，不囿於成見，才能接近真實，產生更公平的社會。

請以「釐清雜訊，追求真相」為題，撰文一篇，闡釋上述物體降落與黑洞觀測的啟發，並以自己親身經歷或見聞為例，申論己見。

乙、測驗部分：(50 分)

代號：3101

(一)本試題為單一選擇題，請選出一個正確或最適當答案。

(二)共 40 題，每題 1.25 分，須用 2B 鉛筆在試卡上依題號清楚劃記，於本試題或申論試卷上作答者，不予計分。

- The medicine is injected directly into the vein in an urgent situation because the effect will be more _____ than taking a pill.
(A) conservative (B) instantaneous (C) predominant (D) insignificant
- The dog became frisky suddenly, _____ in its owner's arms and barking excitedly.
(A) wiggling (B) whining (C) whispering (D) wielding
- The mission has to be _____ because of limited budget.
(A) abbreviated (B) advanced (C) admired (D) aborted
- John was so exhausted from traveling and fell asleep almost _____.
(A) instantly (B) inclusively (C) incredibly (D) intensively
- The fact that the unique dialect is spoken in the city and its _____ areas shows clear historical connections of the people in these areas.
(A) adverbial (B) adjacent (C) approved (D) appendix
- "How did you know that this is my favorite brand?" she asked, _____ some perfume behind each ear.
(A) dabbling (B) spitting (C) dribbling (D) splattering
- It would be an _____ to say cannabis trade has been growing by leaps and bounds since its estimated worth increased dramatically within a month.
(A) understatement (B) undergrowth (C) underdog (D) undercurrent

- 8 As a direct result of the pandemic and related guidance from public health officials, aircrafts of all types are regularly undergoing _____ procedures more often than ever before.
(A) dissolution (B) disinfection (C) delusion (D) disinformation
- 9 _____ enables people to trace back their family histories for generations.
(A) Archaeology (B) Extinction (C) Genealogy (D) Heroism
- 10 Some people may leave areas of low wages to go to the areas where _____ jobs are available.
(A) lucrative (B) skeptical (C) dispelling (D) insatiable
- 11 Vitamin D _____ can arise if a person does not take in enough or their skin has an impaired ability to nurture it from the sun.
(A) defaults (B) deficiencies (C) demerits (D) disorders
- 12 Eager to be the first nation to explore the space, the USSR _____ the first man-made satellite, Sputnik, into orbit around the Earth in 1957.
(A) enlightened (B) floated (C) launched (D) pitched
- 13 Most migrants were not treated fairly in the American society in the 19th century when the _____ of Asians was widespread throughout the Western society.
(A) oppression (B) elevation (C) inclination (D) assumption
- 14 Patricia was _____ with grief when she heard of the news of her father's sudden death last night.
(A) engaged (B) overwhelmed (C) overdrawn (D) enlightened
- 15 Carlos is _____ on why his 10-year-long marriage would have ended in divorce.
(A) reflecting (B) deflecting (C) infecting (D) affecting

請依下文回答第 16 題至第 20 題：

What do urban building materials have in common? First of all, materials such as asphalt, steel, and brick are often very dark colors—like black, brown and grey. A dark object absorbs all wavelengths of light energy and 16 them into heat, so the object gets warm. In contrast, a white object reflects all wavelengths of light. The light is not converted into heat and the temperature of the white object does not increase noticeably. 17, dark objects—such as building materials—absorb heat from the sun.

To cool down urban heat islands, some cities are “lightening” streets. 18 is done by covering black asphalt streets, parking lots, and dark roofs with a more reflective gray coating. These changes can drop urban air temperatures dramatically, especially during the heat of summer. Planting gardens on urban rooftops can also help to cool down the city, too! 19, a study in Los Angeles, California, calculated that changes like these would be enough to save close to \$100 million per year in energy costs!

Urban building materials are another reason that urban areas trap heat. Many modern building materials are impervious surfaces. This means that water can't flow through surfaces like a brick or a patch of cement like 20 would through a plant. Without a cycle of flowing and evaporating water, these surfaces have nothing to cool them down.

- 16 (A) disables (B) rejects (C) converts (D) exemplifies
17 (A) Thus (B) Nonetheless (C) However (D) What's worse
18 (A) Little (B) This (C) Which (D) What
19 (A) In vain (B) In contrast (C) In case (D) In fact
20 (A) what (B) that (C) they (D) it

請依下文回答第 21 題至第 25 題：

The development of companion machine is making a lot of progress. The ideal companion machine would not only look, feel, and sound friendly but would also be programmed to behave in a 21 manner. Those qualities that make interaction with other people enjoyable would be 22 as closely as possible, and the machine would appear to be charming, stimulating, and easygoing. Its informal conversational style would make interaction comfortable, and yet the machine would remain slightly unpredictable and 23 interesting. In its first encounter it might be somewhat hesitant and 24, but as it came to know the user it would progress to a more relaxed and intimate style. The machine would not be a passive participant but would add its own suggestions, information, and opinions; it would sometimes take the 25 in developing or changing the topic and would have a personality of its own.

- 21 (A) secondary (B) congenial (C) cynical (D) similar
 22 (A) collapsed (B) questioned (C) simulated (D) repudiated
 23 (A) therefore (B) misleadingly (C) disruptively (D) beforehand
 24 (A) conspicuous (B) passionate (C) amiable (D) unassuming
 25 (A) initiative (B) drive (C) edge (D) creativity

請依下文回答第 26 題至第 30 題：

Some scholars look within nations to explain the source of current dissatisfaction with open market. Economists offer an 26 view that over time, trade should be increasingly valued by voters. This is because the new and more 27 consumer goods are available for purchase. Also, more exports opportunities 28 growth and employment. However, all these gains are not taken for granted in politics. One reason for this is that although consumer prices have declined and exports grown, job gains are 29. Even if history ultimately reveals a positive relationship between job growth and globalization, the potential benefits of globalization have been 30 by increasingly long value chains, by job growth in less legible service sectors, and by the geographic consolidation of winners.

- 26 (A) offensive (B) invalid (C) indifferent (D) optimistic
 27 (A) varied (B) based (C) prompted (D) lucrative
 28 (A) compete (B) drive (C) overlook (D) reduce
 29 (A) temporary (B) uncountable (C) accelerating (D) permanent
 30 (A) promoted (B) undermined (C) reinstated (D) enhanced

請依下文回答第 31 題至第 35 題：

Parents and educators are best positioned to help kids deal with information-quality issues. Children need to be taught critical skills in general. 31 suggests that as they learn these skills, they are better able to make 32 of information online as well as offline. We don't need to teach them anything 33 new. But the need for critical thinking is even greater now than it was decades ago, when kids had library cards instead of Web 34. The material at the library was already hand-picked for its suitability and 35. We need to teach kids these skills earlier, and in ways that work for them in the digital environment as well as in traditional environments.

- 31 (A) Evidence (B) Accusation (C) Quality (D) Quantity
 32 (A) attachments (B) arguments (C) appointments (D) assessments
 33 (A) constitutionally (B) secondarily (C) fundamentally (D) scandalously
 34 (A) removal (B) denial (C) limitation (D) access
 35 (A) evaluation (B) accuracy (C) probability (D) correction

請依下文回答第 36 題至第 40 題：

High blood pressure has been of great concern for many people nowadays. It places a severe 36 on the heart, blood vessels, and kidneys. It may 37 cause the heart to enlarge and become thickened. In some cases, the heart may fail. High blood pressure can also cause the blood vessels to overstretch, weaken, or burst; a 38 blood vessel in the brain can cause a stroke or even paralysis. The third and most serious 39 related to high blood pressure is kidney failure. When the kidneys cease to function, they no longer 40 waste products. The result of kidney failure may be serious illness, or even death.

- 36 (A) boost (B) wrench (C) tinge (D) strain
 37 (A) eventually (B) initially (C) preventively (D) punctually
 38 (A) legendary (B) ruptured (C) radical (D) locomotive
 39 (A) barrier (B) obstacle (C) complication (D) achievement
 40 (A) fill up (B) filter out (C) sweep in (D) sift between