考試開始鈴響前・不得翻閱本試題!

★考試開始鈴響前,考生請注意:

一、不得將智慧型手錶及運動手環等穿戴式電子裝置攜入試場,違者扣減其該科成績五分。

二、請確認手機、電子計算機、手提袋、背包與飲料等,一律置於試場外之臨時置物區。 手錶的鬧鈴功能必須關閉。

三、就座後,不可擅自離開座位。考試開始鈴響前,不得書寫、劃記、翻閱試題本或作答。
 四、坐定後,雙手離開桌面,檢查並確認座位標籤與電腦答案卡之准考證號碼是否相同?
 五、請確認桌椅下與座位旁均無其他非必要用品。如有任何問題請立即舉手反映。
 ★作答說明:

一、本試題(含封面)共9頁,如有缺頁或毀損,應立即舉手請監試人員補發。

二、選擇題答案請依題號順序劃記於電腦答案卡,在本試題紙上作答者不予計分;電腦
 答案卡限用 2B 鉛筆劃記,若未按規定劃記,致電腦無法讀取者,考生自行負責。
 三、選擇題為單選題,共50題,每題2分,共計100分,請選擇最合適的答案。
 四、本試題必須與電腦答案卡一併繳回,不得攜出試場。

本試題(含封面)共計9頁之第1頁

I. Vocabulary and Phrases

Part 1: Choose the best answer to complete each sentence.

- There is a loud shout from the _____ crowd.
 (A) delicious
 (B) delirious
 (C) luminous
 (D) luxurious
 (E) deceptive
- 2. The national economic policy has been the subject of _____ debate.
 (A) involuntary (B) empathic (C) resonating (D) contentious (E) presumptuous
- 3. The keynote speaker _____ that there is a critical period for language learning, after which nativelike attainment is extremely difficult, if not impossible.
 - (A) maintained (B) demanded (C) reprimanded (D) notified (E) assessed
- 4. The defense accused the witness of ______ evidence, with deceitful intent.(A) fabricating (B) desensitizing (C) converging (D) delineating (E) retrieving
- 5. The political leader has warned that too many schoolchildren are in large classes, ______ to change this if elected.
 - (A) vexing (B) vowing (C) venting (D) vying (E) veering
- 6. The brain _____ voluntary and involuntary function; it enables us to be alert and to respond physically as well as emotionally to the world.
 - (A) appropriates (B) accelerates (C) regulates (D) rejuvenates (E) ignites
- 7. A recognized problem with material found on the internet is that often it is _____ with sources unlisted and the writers' credentials unknown.
 - (A) unclaimed (B) unfounded (C) underpinned (D) unabridged (E) unsubstantiated

Part II: Choose the word or phrase that is closest in meaning to the <u>underlined</u> word or phrase in each sentence.

8. We probably see fewer people in person these days, but our lives are populated by an entire chorus of <u>disembodied</u> presences, amplified and directed by the internet, as if we had all begun to suffer from a mild form of schizophrenia.

(A) inconsequential (B) decayed (C) destroyed (D) disinterested (E) intangible

- 9. Coots are <u>belligerent</u>, territorial, quick-tempered birds for nothing irritates a coot like another coot.
 (A) imperious (B) resistant (C) hostile (D) hospitable (E) mellow
- 10. There was a steady stream of customers, mostly for takeout, and the experience was marred only by a guy we took to be the proprietor <u>upbraiding</u> one of his employees in front of the customers.(A) demanding (B) reproaching (C) suppressing (D) importuning (E) revoking
- 11. It is observed that exclusory practices in the United States between and within schools are not random; they are structured along class and, particularly, along race and ethnic lines.
 - (A) intentional (B) expected (C) calculated (D) haphazard (E) premeditated
- 12. The push for <u>rigorous</u> preschool education has overlooked the evidence on how kids really learn best. (A) engaging (B) standard (C) prevailing (D) thorough (E) developmental
- 13. The reviewer's notes help <u>illuminate</u> the movie director's works.
 - (A) adore (B) promote (C) elucidate (D) culminate (E) proliferate

transformed this nascent interdisciplinary field into an intellectually-rich, high-impact, worldwide phenomenon. The initiators of HCI have grown from a small rebellious group of researchers who struggled to gain recognition as they broke disciplinary boundaries to a broad <u>21</u> with potent impact on the daily lives of every human. The <u>22</u> of early HCI researchers and practitioners were to make better menus, design graphical user interfaces based on direct manipulation, improve input devices, design effective control panels, and present information in comprehensible formats. HCI software developers contributed innovative tools that enabled programmers and non-programmers to create interfaces for widely varying applications and diverse users. In the early days, HCI researchers and professionals fought to gain recognition, and often still have to <u>23</u> HCI's value with academic colleagues or corporate managers. However, the larger world now embraces their contributions and <u>24</u> what they can deliver. <u>25</u> fields can claim such rapid expansion and broad impact as evidenced in the domain of HCI.

21.	(A) substantial com	ment (B)) effective communication (C) influential community		
	(D) sincere commit	ment (E)	critical commentary		
22.	(A) identities	(B) profits	(C) fortunes	(D) provisions	(E) aspirations
23.	(A) negate	(B) recover	(C) renew	(D) justify	(E) appreciate
24.	(A) imposes constraints on (B)		has high expectations of (C) takes command of		
	(D) gets a grip on	(E)	exerts pressure on		
25.	(A) Few	(B) Little	(C) Some	(D) Most	(E) Any

Questions 26-30

Programming used to be a process of translating concepts into computer terms. 26, computer programmers first need to discuss and propose high-level ideas and concepts expressed in natural language; they then work with these ideas in math notation and flowcharts, finally translating them into pseudocode and a computer program that could 27 the proposed ideas. Translation is a necessary process because each 'language' noted above offers idiosyncratic capacities not seen in the other languages. For instance, natural language is expressive and readable; math notation is concise and precise; and code is abstract but is logical. Due to the unique feature of each language, the price of translation is that no one is an omnipotent <u>28</u> in *all* the languages involved in the process of programming; in most cases, we are only limited to a subset of ideas we can express effectively in a given language. This issue is further 29 by the fact that some ideas that are easy to express in computer terms are difficult to express in math notation, and the symbolic math notation may be awkward to write in computer codes. The aforementioned translation issues cannot be resolved in the first-generation programming languages such as FORTRAN and C. 30 the evolution of programming languages, modern programming languages such as Python are now expressive, readable, concise, precise, and executable. This entails that programmers can now eliminate 'middleman' languages and use one language to explore, to learn, to teach, and to think, thereby reducing the burden traditionally imposed on programmers.

26.	(A) Tangibly	(B) Specifically	(C) Critically	(D) Recently	(E) Consequently
27.	(A) mask	(B) forsake	(C) entertain	(D) implement	(E) garner
28.	(A) dictator	(B) pioneer	(C) retailer	(D) coordinator	(E) expert
29.	(A) compounded	(B) facilitated	(C) confined	(D) modulated	(E) encrypted
30.	(A) Depending on	(B) Inspired by		(C) Thanks to	
	(D) In addition to	(E) Pi	ovided that		

IV. Discourse Structure: Choose the best answer from the box below for each blank in the passage.

Questions 31-35

Because of globalization, it is now easier than ever to share information and trade goods all around the world. <u>31</u> One of the main benefits of a shrinking world is that global cooperation is now much easier. International collaboration can help countries address issues together. It can also promote peace and understanding between different nations.

本試題(含封面)共計9頁之第4頁

<u>32</u> Take the environment for example. There are, unfortunately, many environmental problems that affect the entire planet today. <u>33</u> At the world-wide level, the United Nations Environmental Program (UNEP) coordinates international efforts that affect the land, sea, and air for the 192 member states of the United Nations. The UNEP thus promotes sustainability for the entire planet's environment. At a more regional level, the United States and Canada are working together to fight the air pollution that leads to acid rain. These two countries are members of an international joint commission that has agreed to work on air quality. <u>34</u> Indeed, they have been very successful in reducing the harmful elements that cause acid rain. For instance, according to Environment Canada, sulphur dioxide emissions that cause acid rain have been reduced by 57% in Canada and 67% in the United States since 1990. By working together, Canada and the US are protecting the environment on both sides of the border.

Major world problems such as air pollution and acid rain are best solved through global cooperation. Peaceful coexistence is also promoted through countries working together. <u>35</u> But if countries can collaborate on the solutions, the problems are sure to be overcome.

- (A) However, countries can work together to solve them.
- (B) Rapid advances in information and communications technology have resulted in what seems to be a much smaller world.
- (C) The planet is sure to face more challenges in the future.
- (D) To attain this goal, they cooperate in a number of ways, including exchanging information and conducting research.
- (E) Global cooperation is vital because many of the world's troubles cannot be easily resolved without the help from other countries.

Questions 36-40

Some researchers contend that solving a math problem requires correct understanding of concepts, which is also believed to foster the ability to play a musical instrument. But, this view is not universally upheld by all scholars. <u>36</u> Furthermore, much remains unknown about whether the development of the two abilities are mutually beneficial to each other; namely, music training promotes math solving ability, and mathematic ability enhances musical performance. 37 The lack of consensus can be attributed to two issues. First, although a few cross-sectional studies have shown that students who are musically trained tend to outperform those who have not studied music in mathematics grades, this finding is not universally established in all studies. Second, available studies only prove the correlation between the two abilities. It is important to note that correlation does not necessarily entail a causal relationship. <u>38</u> In the light of these two issues, some researchers hold a more conservative attitude toward the link between the two abilities and posit that the proposed 'link' between the two abilities can be attributed to other confounding variables such as socio-economic background and cognitive factors. For instance, people who have good financial resources and socio-economic status are more likely to afford music lessons and receive training in math, thereby having outstanding performance in the two abilities. <u>39</u> For instance, high-level cognitive skills (such as one's ability to adjust to changing task demands) are key to the success in math and music. 40 To shed light on the relationship between music and mathematic abilities, we

本試題(含封面)共計9頁之第5頁

need to recruit people with similar socio-economic and cognitive profiles, and diachronically observe their mathematic performance before and after receiving musical training. Before such longitudinal evidence is available, we just need to enjoy playing music or studying math if it positively enriches our lives.

- (A) To validate the causal relationship between the two abilities, longitudinal experimental studies are warranted.
- (B) In addition to the above explanatory account, it is also conceivable that cognitive factors may contribute to an individual's success in music and mathematics.
- (C) In fact, no existing study has established the causal relationship between the two abilities.
- (D) Whether the two abilities share a similar prerequisite remains a debated issue.
- (E) Or, alternatively, the two abilities simply develop in parallel.

V. Reading Comprehension: Choose the best answer to each question/statement below according to what is stated and implied in each passage. Questions 41-42

Years ago, Prof. J. D. Bernal wrote a canonical essay on science and industry, which was later included in a series of essays concerning the frustration of science. This edited volume of essays bore witness to the sense of social responsibility of individual scientific men at least, and to their concerns with tendencies or forces which are preventing science from bringing its full benefits to mankind. Somewhat earlier, in "Scientific Research and Social Needs," Prof. Julian Huxley gave a popular picture of the extent to which scientific advance is influencing every aspect of everyday life and a brief forecast of some of the further possibilities if we can lessen or close the wide gap between scientific knowledge and its application to the needs of humanity. In this vein, Lord Stamp in "The Science of Social Adjustment" called for research on urgent problems arising from the impact of science on society. In this effort, scientific workers have become aware that, for the first time since the Renaissance, science itself is in danger, and that political forces are threatening not merely the direction but even the existence of science.

- 41. We can infer from the passage that
 - (A) there is no gap between science inquiry and the needs of humanity.
 - (B) scientific breakthroughs are always in line with politics and industry.
 - (C) scientific discoveries have not increased mankind's social responsibility.
 - (D) science's ultimate potential has been inadvertently thwarted by politics.
 - (E) scientists feel indifferent towards their social responsibility.
- 42. All of the following can be inferred from the text except
 - (A) The influence of science on society needs to be addressed, evaluated and studied.
 - (B) Scholars are urging politicians to exercise power to make path for science.
 - (C) Science is now facing the greatest survival risk since the Renaissance.
 - (D) Closer link between science and society has been called for again and again.
 - (E) It is high time to revamp the position of science for a better future.

Questions 43-45

In *Principles of Psychology*, one of the founding works of experimental psychology, William James talked a lot about "instincts." This term was used to roughly refer to specialized neural circuits that are common to every member of a species and are the product of that species' evolutionary history. Taken together, such circuits constitute (in our own species) what one can think of as "human nature."

It was and is common to think that other animals are ruled by "instinct," whereas humans lost their instincts and are ruled by "reason," and that this is why we are so much more flexibly intelligent than other animals. James, however, argued that human behavior is more flexibly intelligent than that of other animals because we have more instincts, not fewer. We tend to be blind to the existence of these instincts, however, precisely because they process information so effortlessly and automatically. They structure our thought so powerfully, he contended, that it can be difficult to imagine how things could be otherwise. As a result, we take "normal" behavior for granted. We do not realize that "normal" behavior needs to be explained at all. This "instinct blindness" makes the study of psychology difficult. To get past this problem, James suggested that we try to "make the natural seem strange" and that we should not take "the natural" for granted.

In our view, William James was right about evolutionary psychology. Although the idea of "mak[ing] the natural seem strange" appears to be odd, it is a pivotal part of the research on natural competences. Many psychologists avoid this line of thinking, arguing that nothing about "the natural" needs to be explained. As a result, social psychologists are disappointed unless they find a phenomenon "that would surprise their grandmothers," and cognitive psychologists spend more time studying how we solve problems we are bad at, like learning math or playing chess, than ones we are good at. But our natural competences -- our abilities to see, to speak, to find someone beautiful, to reciprocate a favor, to fear disease, to fall in love, to initiate an attack, to experience moral outrage, to navigate a landscape, and myriad others -- are possible only because there is a vast and heterogeneous array of complex computational machinery supporting and regulating these activities. This machinery works so well that we do not even realize that it exists. We all suffer from instinct blindness. As a result, psychologists have neglected to study some of the most interesting machinery in the human mind.

- 43. According to William James, humans tend to be more flexibly intelligent than most animals because
 - (A) they can naturally coordinate complex instincts well.
 - (B) they use their reason to override natural instincts.
 - (C) they are by nature better at computation and machines.
 - (D) they are born with higher intelligence quotient.
 - (E) they are much more emotionally mature.
- 44. One of the author's primary purposes in this passage is to
 - (A) introduce the development and the tenet of evolutionary psychology.
 - (B) explain the differences between social and cognitive psychology.
 - (C) propose more research on the study of atypical human behavior.
 - (D) refute the idea that both humans and animals are ruled by instincts.
 - (E) call for more research on humans' complicated instincts.

- 45. According to the author, "instinct blindness"
 - (A) recognizes the possibility that "the natural [can] seem strange."
 - (B) is what makes current psychological research promising.
 - (C) pinpoints where research on psychology should be directed.
 - (D) fails to acknowledge that human mind is a complex mechanism.
 - (E) enriches psychologists' practice and research agenda.

Questions 46-50

Many preterm babies, especially those in the intensive care unit, are often subject to various intrusive life-saving but painful procedures, such as heel pricking or insertion of a thin tube to deliver fluids or medicine. What is stunning is that analgesic is only used about one third of the time. Decades ago, doctors used to believe that newborn babies do not feel pain and that even if they do feel pain, giving them painkillers or analgesics would do them more harm than good. However, recently, medical professionals and clinicians have started to revisit this view using more advanced technology such as fMRI and electroencephalography (EEG). EEG detects very different brain-wave patterns when babies receive painful and painless procedures. Although this incorrect view has been cleared up, we still have very limited understanding of infant pain. Treating infant pain is a daunting task both for the experienced and novice medical professionals.

What really concerns the parents and medical professionals is the lack of appropriate guidelines when analgesic is used for babies. The lack of guidelines can be attributed to the fact that the efficacy of analgesic is often affected by its quantity given to babies. Determination of the dose of analgesia for babies is tricky because not all analgesics for adults are suitable for babies, and those that can indeed be given to babies often lead to different effects in babies. This thus makes dosing a thorny issue. This issue is exacerbated by the fact that babies are not capable of articulating how they feel. To address this problem, medical professionals have started to appeal to EEG to objectively measure pain-related brain activities in babies and to determine whether a given pain killer is effective in alleviating pain during necessary medical procedures. Dr. Bonnie Stevens, a senior scientist from the University of Toronto, adds several <u>caveat</u>s: the current EEG research only involves small samples of participants, and the period of observation of EEG response is short and may not correlate well with behavior. Dr. Stevens further notes: The cost and expertise required for the application of EEG measures of pain might be prohibitive. Due to the above issues, medical professionals need to keep refining the EEG approach to pain measurement and to allow it to be used in various clinical settings. Notwithstanding, the preliminary EEG findings are promising. Before the use of the EEG technology, it is not clear whether morphine -- an analgesic frequently given to adults in medical treatment -provides equally effective pain relief in babies. Now, medical professionals can tell whether babies who are given morphine experience less pain, at least in the lab setting. Existing EEG measurements are mainly used in the lab and for group research purposes, rather than for individual clinical needs. With more extensive application of the EEG technology in the clinical setting, medical professionals will be better able to identify more effective pain relief drugs, and lower numbers of painful procedures performed on newborn babies.

- 46. What is this article mainly about?
 - (A) The evolution of various pharmacological treatment for babies in pain
 - (B) Non-invasive pain relief treatment for infants suffering from brain injuries
 - (C) The advance in views on infant pain assessment and treatment
 - (D) Guidelines of the analgesic procedures for preterm babies
 - (E) Physiological and neurological basis of infant pains
- 47. According to this passage, which of the following statements is true?
 - (A) EEG is already a very mature, well-established pain detection technology extensively used in the clinical setting.
 - (B) The challenge of treating infant pains is not limited to novice medical professionals.
 - (C) The pharmacological pain-relieving interventions for adults and babies are the same.
 - (D)Our understanding of baby pain and ways of controlling it do not evolve too much during the past decade.
 - (E) Brain-wave activities from babies who are in pain and who are not in pain are identical.
- 48. Which of the following is a major obstacle to identifying the effectiveness of pain relief drugs for babies?
 - (A) babies' undeveloped verbal ability
 - (B) issues regarding medical ethics
 - (C) the medical crew's insufficient clinical experience
 - (D) limited options of pain relief drugs
 - (E) little understanding of infants' cognition system
- 49. Which of the following is true about the use of EEG in current infant clinical treatment?
 - (A) feasible but time-consuming
- (B) imprecise and not up-to-date
- (C) auspicious but not cost-efficient
- (D) complicated and impractical

- (E) mature and accessible
- 50. The word "caveat" in the second paragraph is closest in meaning to:
 - (A) corollary (B) contention (C) admiration (D) compliment (E) admonition