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請按照題目順序在答案卷填寫答案

I. Please identify one underlined word or phrase that should be corrected or rewritten and mark your answer. (20%) 挑錯每題 2 分，共 10 題。

1. Several delegates flew from Panama to greeting the ambassador and his family before the concert.  
A B C D
2. Mr. Cheng had erroneously filed all of the taxes reports with the wrong agency, causing a series of problems over the weeks that followed.  
A B C D
3. Many wholesalers have been regained the ground they lost as a consequence of last year's nationwide economic slump.  
A B C D
4. With the carefully devised marketing strategy that Tina put together, we were able to recover back our market share.  
A B C D
5. Solar energy application is being development all over the world to keep pace with the energy needs of developing countries.  
A B C D
6. Fearred inflation, our investors are not as willing to make big moves that have characterized the last six months of stock market activity.  
A B C D
7. For thirteen uninterrupted years, the shareholders they have received quarterly dividend checks.  
A B C D
8. We tested several scanners at the trade show in Taipei and the new Xerox 3500 seemed to be the good one for our purposes.  
A B C D
9. The newly-developed computer program was user-friendly that our staff were able to master it in a matter of days.  
A B C D
10. The new real estate agent tried to convince us that the townhouse had a certain charm of it.  
A B C D

- II. Matching: There are two columns below. For the first column, there is a list of headings below (A-K). Choose the most suitable heading for the paragraph labeled 11-17. The second column shows the names of the researchers and what they did in their study. Match the correct name and the statement. Write the appropriate letter on your answer sheet. (20%) 每題 2 分，共 10 題。配合題 11-17 題請由格子中配合段落 11-17，挑選適合的標題。題目 18-20 由研究項目中，選出適合的作者名字。

(背面仍有題目,請繼續作答)

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考試科目 英文(A)

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## List of headings

- A) Female spending prompts corporations and social researchers to investigate the nature of beauty.
- B) Beauty can be equated with the conformity to features normal amongst most other people in one's society.
- C) Personality traits inferred from physical characteristics.
- D) Evolution invariably eliminates features taken from different unattractive faces.
- E) Beauty found in combinations of features taken from different unattractive faces.
- F) Attributes signifying fertility are regarded as a fundamental concept to a woman's perceived attractiveness.
- G) Difference is a kind of beauty.
- H) The superimposition of photographs produces attractive faces.
- I) Some experiments have showed that Asian and European faces are preferred to composites.
- J) Oestrogen results from a narrow waist and full buttocks.
- K) Computers simulate evolution to tell the ideal type.

## Beauty is in the eye...

(From Absolute IELTS by Julian Charles)

- 11 It is a little known, though not altogether surprising, fact that roughly one-third of what American professional women earn goes towards their appearance. The reason that so many of these seemingly empowered and sophisticated women remain so preoccupied with their looks would seem relatively self-evident—the most often-cited reason being that in the world of business, individual looks are an increasingly influential factor. Far less obvious, however, is the nature of beauty itself—what makes one person visually pleasing, but another repulsive to the eye? Now, as the aesthetic aspirations of women spur on an ever more lucrative beauty industry, anthropologists and cosmetic companies alike are striving for answers to this eternal question.
- 12 One of the best-established theories regarding beauty suggests that composite features selected from a variety of plain or ordinary faces can be combined to produce one beautiful face. Physicist and geneticist Sir Francis Galton became convinced of this in 1878 after an experiment in which he superimposed a series of photographs on top of one another. He discovered that the result was more attractive than any of the individual faces comprising the composite.
- 13 However, more recent anthropologists and evolutionary theorists assert that societies' values of beauty and fertility are linked to the "law of averageness", whereby beauty—rather mundanely—can be reduced to the average value of faces in a certain human population. According to this theory, evolutionary forces will eliminate more extreme features. In support of such evolutionary tendencies is the notion that average features such as shiny hair and good skin signify good health and fertility. These are the type of features that societies seem to value. If true, this would mean that average physical characteristics continue to get passed on to successive generations in a process which gradually levels out all extreme physiognomies.
- 14 However, contradicting the theory of synthetic beauty as well as that of the "law of averageness" is a set of experiments conducted at the University of St. Andrews by Dr. David Perrett. Conducting research on composite photographs of both Asian and European faces, he concluded thus: "We found that not only were individual faces preferred to composites, but that when the computer was used to exaggerate the composite features further from the average, that too was preferred"
- 15 Other alternative academically based theories abound. According to tests performed by Dr. Devendra Singh from the University of Texas, oestrogen—as opposed to testosterone which causes weight to be accumulated round the stomach—stimulates weight to form further down

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around the area of the buttocks and thighs. The message given by the resulting full buttocks and narrow waist, in combination with an ideal face, is that the female has an abundance of oestrogen and is, therefore, fertile.

- 16 Moreover, other tests carried out by Singh, during which male students were shown numerous images of women, indicated that the women with the most pleasing proportions had a hip-waist ratio between 0.67 and 0.8. The perception of personality associated with physical proportions also yielded interesting findings; men felt women with attractive proportions to be humorous, intelligent and healthy. Women with thicker waists were considered faithful and kind, while women they thought too thin were branded as aggressive and ambitious. Judging from these tests, mathematical proportions do indeed seem to affect perceptions of physical and emotional desirability.
- 17 Further linking the beauty ideal to the effects of oestrogen and the appearance of fertility were tests conducted by Professor Victor Johnstone of the University of New Jersey. Volunteers screened the faces of women they found attractive and these faces were then fed into a computer program which replicated the process of the evolution over four generations. Results revealed the ideal type to a 24.8 year old with a short face and full lips, the very features induced by oestrogen.

A more general theory, focusing on the significance of bodily and facial proportions, is the enduring universal adherence to the standard of beauty called the "golden section", which was originally used by the Ancient Greeks to refer to facial proportions of around 1.6. Dr. Mark Lowey, of London's University College Hospital, who made studies of fashion models, says: "Our perception of attractiveness values beautiful people with faces and bodies with conform more closely to the golden section dimensions" What makes hands beautiful, he continues, is the balance in length between the shorter and longer joints—a ratio of 1.618. This is exactly the same as the ideal ratio between the distance from the hairline to the tip of the nose and that between the nose and chin.

Forwarded by Dr. William Cunningham of Eimhurst College Illinois is a theory which centers more on the distinctive aesthetic perceptions of different cultures. Cunningham says: "It could be that societies where women have more power and autonomy idealize women with more mature features, while those which value submissive females may prefer baby faces"

More reassuring perhaps, another experiment—one also conducted at London's University College Hospital by Dr. Alfred Linney of the Facial Unit—confirmed that a certain quirkiness of features is surprisingly desirable. After analyzing the faces of professional models he concluded that "there was no one ideal of beauty that they were closer to" Indeed, some models had features like long faces, jutting chins and teeth that stuck out, none of them considered conventionally beautiful. Linney continued that such features on a "normal face" would have been cause for corrective surgery. One particular model had teeth which protruded by eight millimeters, three millimeters beyond the point where Linney would usually perform surgery.

What seems apparent is that theories lose or gain credibility through time, while others—like the "golden section" theory—seem to endure. Wherever the essence of beauty lies, I think it is clear that the crucial motive driving so many people to invest in their appearance is Stendhal's maxim that "beauty is no more than the promise of happiness".

Name of the researchers

- A. Devendra Singh  
 B. Mark Lowey  
 C. Stendhal  
 D. Victor Johnstone  
 E. William Cunningham  
 F. Alfred Linney

(背面仍有題目,請繼續作答)

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18. Abnormal facial features were surprisingly beautiful.  
19. The hormone Oestrogen causes weight to build up around the stomach.  
20. Computer assisted evolutionary simulations assert that full lips and short face are ideal.

III. Please reassemble the sentences into unified and coherent passages. (20%)每題 4 分，共 5 題。組裝短文，順序全對才計分。

21. (From Maher & D. Butlar (2009) Swine flu: One killer virus, three key questions. *Nature* 462, 154-157)
- A) In the rest, the virus seems to be lethal on its own. Zaki slots onto the microscope stage a slide from a 38-year-old male who died without bacterial co-infection.
  - B) Scar-like pink ribbons, called hyaline membranes, arc through the tissue. Pathologists call this state 'diffuse alveolar damage', and it tells them that the man had respiratory distress syndrome.
  - C) Co-infection is common with pandemic H1N1, at least in those who have died. Zaki's group has observed infection with bacteria such as *S. aureus* or *Streptococcus pneumoniae* in about a third of the fatal swine-flu cases it has examined.
  - D) "It's very difficult to treat a patient once they get to this state," Zaki says. He points out that the man was obese and had a history of hypertension and heart problems.
  - E) This one is filled with the red staining; also the walls of the alveoli are ruptured and blood cells and fluid fill the spaces normally reserved for gas exchange.
  - F) Some 90% of the cases his team has reviewed have had some underlying medical condition.
22. (From Brandon Griggs, Apps: They're not just for your phone anymore. CNN News, January 10<sup>th</sup>, 2010)
- A) But big tech companies, seeing how applications have boosted the appeal of gadgets such as Apple's iPhone, are starting to view apps as low-cost enhancements for a broader range of products, from netbooks to TVs and beyond.
  - B) Not to be outdone, Samsung announced it will open its own app store for HDTVs, Blu-ray players and mobile phones.
  - C) Even unlikely players such as Ford Motor Co. are getting in on the app act.
  - D) To most people these days, an "app" is something you download on your smartphone to help you do a specific task -- say, find a good nearby restaurant.
  - E) Ford announced Thursday that several applications, including one that will read aloud Twitter tweets while you're driving, will be available on many of its vehicles later this year.
  - F) At the International Consumer Electronics Show here this week, microchip maker Intel launched an app store geared towards netbook computers.
23. (From Guy Gugliotta (2007) The Maya: Glory and Ruin. *National Geography*)
- A) To chart a culture whose Preclassic roots reach back 3,000 years, we begin with new evidence suggesting that the arrival of a warlord from central Mexico ushered in an age of magnificence and masterpieces such as the death mask of Palenque's King Pakal.
  - B) The doomed splendor of the Maya unfolded against the backdrop of the rain forests of southern Mexico and Central America.
  - C) We conclude with the cascade of catastrophe—natural and man-made—that precipitated the

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- Classic Maya collapse, leaving nature to reclaim the grandeur.  
 D) But empires rise only to fall.  
 E) Here, Classic Maya civilization reached improbable heights.

24. (From Cathy Booth Thomas (2006). Is Coal Golden? *Time*)

- A) Convened by the Secretary of Energy, the National Coal Council (McCall is a member) has laid out an aggressive energy plan using coal over the next two decades.  
 B) New transmission lines, like the \$6 billion Frontier Line, will carry electricity from the coalfields of Wyoming to consumers in California.  
 C) The Bush Administration has put down its own \$2 billion bet, largely by pursuing FutureGen, a next-generation coal-fired plant promising near zero pollution emissions--all in the hope of making the nation less oil dependent.  
 D) Over the next 25 years, the Department of Energy predicts the use of coal will provide an increasing portion of our power--up to nearly 60%, from 52%.  
 E) Coal production is expected to soar from 1.1 billion tons a year to 1.8 billion--mostly from the West, especially Wyoming's Powder River Basin.  
 F) Peabody Energy, the nation's largest coal company, with 2005 sales of \$4.6 billion, up 28%, and earnings of \$423 million, up 140%, is in acquisition mode worldwide.

25. (From Jonathan Adams (2004). Chip Dip in Water? *Newsweek*)

- A) Then Burn Lin, a top engineer at Taiwan Semiconductor Manufacturing Co., proposed a simple solution: by sending the beam of light through water rather than air, it might be possible to focus it more finely.  
 B) But there was a hiccup with a key process called microlithography, whereby a beam of light traces out circuit patterns onto wafers of silicon.  
 C) Corporate strategies were already being mapped out on the assumption that chipmakers would find an affordable way to shrink tiny electronic circuits down to even smaller sizes.  
 D) Researchers couldn't figure out how to make it work for smaller circuits, and without a solution the manufacturing lines weren't going to move.  
 E) Back in 2002, engineers charged with making the next generation of computer chips due out in 2010 found themselves staring into the abyss.

## IV. Reading Comprehension (20%) 閱讀測驗：每題 2 分，共 10 題。

## Eggs, Lies, Stem Cells

A leading scientist quits, but remains a hero to many.

By Mary Carmichael | NEWSWEEK

From the magazine issue dated Dec 5, 2005

Hwang Woo-Suk may be a scientist, but in South Korea, he's virtually a rock-and-roll star. The first researcher to extract stem cells from a cloned human embryo, Hwang has an Internet fan club (its women are especially enthusiastic) and a worldwide reputation. In October, after he announced plans for a vast international stem-cell institute, his popularity went platinum. But then, last week, it turned out he was a little too rock-star for his own good. He'd broken the first rule in a profession devoted to truth: he lied.

In 2002 and 2003, Hwang's lab was facing a shortage of the human eggs it needed to perform research, so two of his subordinates donated their own. An affiliated hospital paid several more women about \$1,400 each to do the same. At the time, Hwang said that volunteers unknown to him

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had donated all the eggs in his experiments without compensation. He may have believed his own statement; the staffers participated under false names. But after he learned where the eggs really came from—even after Nature magazine reported in 2004 that one of his doctoral students had said she was a donor—he kept the truth quiet, going so far as to blame the report on the student's broken English, and only fessing up last week.

Why the cover-up? It wasn't because Hwang violated any laws; Korean stem-cell researchers were allowed to pay for egg donations until last January. It wasn't because he was ashamed of his junior staffers' contributions. U.S. labs might frown on such behavior for fear that it might be coerced, but Korean culture accepts it. Rather, Hwang said that he lied to protect his staffers' privacy. In the end, the lie itself may have been the worst ethics violation. "Science depends upon the honesty of the people who submit articles," says Stanford bioethicist David Magnus. "The whole system would come crashing down without it."

In Korea, at least, the system doesn't appear to be crashing. Hwang resigned from several key posts on Friday, but will continue to conduct research at his lab, where work started up at 6 a.m. the next day. At the urging of his fan club, more than 500 women pledged last week to donate their eggs. No one is questioning Hwang's science, either. Nonetheless, his dream of a vast international network of stem-cell researchers may be in danger. In his apology, Hwang said he had gotten "too much preoccupied with work and achievement" to keep ethics considerations in mind, and that the science had outpaced regulations—a defense that plays right into the hands of some U.S. opponents of stem-cell research.

*With B. J. Lee in Seoul and Ben Whitford in New York*

26. How did Hwang Woo-Suk collect eggs?
- He advertised his project in the hospital.
  - He bought them from the market.
  - He recruited the anonymous donors.
  - He cloned the eggs and put them in the fridge.
27. Why was Hwang Woo-Suk considered to violate the ethics?
- He fabricated the lab results.
  - He let his lab crew to donate eggs.
  - He copied someone's work in his research.
  - He intentionally covered the unsuccessful figures.
28. According to the passage, which of the following violates the ethics?
- Retrieving the data without the permission of the data holder.
  - Divulging the privacy of the patients.
  - Videotaping the lecture without asking the speaker.
  - All of the above
29. What is the consequence after the scandal?
- Hwang Woo-Suk stepped down the post and continued the research group.
  - Hwang Woo-Suk was sued and convicted a sentence.
  - Hwang Woo-Suk did his research with international research group.
  - Hwang Woo-Suk called for international assistance and sympathy.
30. According to the passage, what may cause difference to deal with the ethic violation in different countries?
- Regulations
  - Definition of donors
  - Cultural differences
  - Religions

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## Growing Up: Skyscraper Farms Seen as a Way to Produce Food Locally--And Cut Greenhouse Emissions

Could growing crops on high-rise buildings feed growing urban populations, thereby sparing the need to cultivate more and more tracts of land?

From *Scientific American*, December 17, 2009

Dear EarthTalk: What is "vertical farming" and how is it better for the environment?

—Jonathan Salzman, *New York City*

"Vertical farming" is a term coined by Columbia University professor of environmental health and microbiology Dickson Despommier to describe the concept of growing large amounts of food in urban high-rise buildings—or so-called "farmscrapers."

According to the vision first developed in 1999 by Despommier and his students, a 30-story building built on one city block and engineered to maximize year-round agricultural yield—thanks largely to artificial lighting and advanced hydroponic and aeroponic growing techniques—could feed tens of thousands of people. Ideally the recipients of the bounty would live in the surrounding area, so as to avoid the transport costs and carbon emissions associated with moving food hundreds if not thousands of miles to consumers.

"Each floor will have its own watering and nutrient monitoring systems," Despommier elaborated to online magazine Miller-McCune.com, adding that every single plant's health status and nutrient consumption would be tracked by sensors that would help managers ward off diseases and increase yield without the need for the chemical fertilizers and pesticides so common in traditional outdoor agriculture.

"Moreover, a gas chromatograph will tell us when to pick the plant by analyzing which flavonoids the produce contains," Despommier said. "It's very easy to do... These are all right-off-the-shelf technologies. The ability to construct a vertical farm exists now. We don't have to make anything new."

With world population set to top nine billion by 2050 when 80 percent of us will live in cities, Despommier says vertical farming will be key to feeding an increasingly urbanized human race. His Vertical Farm Project claims that a vertical farm on one acre of land can grow as much food as an outdoor farm on four to six acres. Also, vertical farms, being indoors, wouldn't be subject to the vagaries of weather and pests.

"The reason we need vertical farming is that horizontal farming is failing," Despommier told MSNBC, adding that if current practices don't change soon, humanity will have to devote to agriculture an area bigger than Brazil to keep pace with global food demand. Another benefit of vertical farming is that former farmland could be returned to a natural state and even help fight global warming. As agricultural land becomes forest and other green space, plants and trees there can store carbon dioxide while also serving as habitat for wildlife otherwise displaced by development.

Vertical farming is not without critics, who argue that the practice would use huge amounts of electricity for the artificial lights and machinery that would facilitate year-round harvests. Bruce Bugbee, a Utah State University crop physiologist, believes that the power demands of vertical farming—growing crops requires about 100 times the amount of light as people working in office buildings—would make the practice too expensive compared to traditional farming where the

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primary input, sunlight, is free and abundant. Proponents argue that vertical farms could produce their own power by tapping into local renewable sources (solar, wind, tidal or geothermal) as well as by burning biomass from crop waste.

31. What is "Vertical farming" ?
  - A. To building a farm vertically.
  - B. To farm vertically on the ground.
  - C. To draw a vertical line on the farm.
  - D. To farm on the skyscraper.
32. What are the advantages of vertical farming?
  - A. To stay away the weather.
  - B. To feed increasing population.
  - C. To reduce the energy waste.
  - D. To stop the horizontal farming.
33. What is the objection of the vertical farming?
  - A. It may cost more energy.
  - B. It may cost more fertilizer.
  - C. It may cost more human resources.
  - D. It may cost more space.
34. What is the consequence if we don't change to vertical farming immediately?
  - A. We may not save as much money as possible.
  - B. We may not produce sufficient food to human beings.
  - C. We may not earn the best profits.
  - D. We may not close the horizontal farming immediately.
35. Which one is NOT true?
  - A. From the economical aspect, the vertical farming saves more costs by using renewable resources.
  - B. From the point of environment protection, the land use will be reduced because of the vertical farming.
  - C. From the prevention of crop damage, the vertical farming cannot use pesticide to keep their crops.
  - D. From the proponents' point of view, the vertical farming can save lands as well as the farmers due to the automatic monitors.

V. Translation (20%) 中英翻譯：每題 5 分，共 4 題。

36. 人們常認為科學是個純淨又講究邏輯的領域，藉由適當的技術與設備，你可以從一粒沙中看世界。
37. 哪些事應該被允許，哪些又不應該？一項新科技的潛力是否大於它可能被濫用的風險？
38. Instead of a structured, ritualistic restaurant with codes and routine, Ray Kroc gave the Americans a simple, casual and identifiable restaurant with friendly service, low price, no waiting and no reservations.
39. Why are children around the world so eager for the next installment of a story about Harry Potter? Maybe it's because they see themselves in him.