

國立清華大學命題紙

99 學年度 科技管理研究所 碩士班入學考試

科目 英文 科目代碼 4403 共 7 頁，第 1 頁

*請在【答案卷卡】作答

There are total 25 questions and each question is worth 4 points

I. VERBAL AND GRAMMAR TEST

In the following questions, sentences are given with blanks to be filled in with an appropriate word or phrase. Four alternatives are suggested for each question. Choose the word or phrase that will correctly complete the conversation.

1. It is his ----- nature which made him continue where many a lesser mortal would have given up.
A) divine
B) good
C) unfortunate
D) stubborn
2. The series of violent incidents have succeeded in ----- the attention of authorities.
A) taking
B) inviting
C) dividing
D) drawing
3. Mary pulled a ----- face when she was told that she could not go to the cinema.
A) round
B) long
C) short
D) big
4. Was he ----- to listen to her?
A) enough foolish
B) foolish enough
C) too foolish
D) so foolish
5. A light rain ----- to the humidity.
A) supplemented
B) added
C) increased
D) complemented

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6. The eminent lawyer ----- his success to his father's guidance.
A) contributes
B) accounts
C) attributes
D) counts on
7. The train was an hour late. ----- I managed to get to the meeting in time.
A) on the contrary
B) in the same way
C) in spite of this
D) incidentally
8. If you played games regularly, you -----become strong and healthy.
A) will
B) would
C) would have
D) had

II. PARAGRAPH COMPLETION

Complete the reading texts below.

9. The purpose of the proposed law requiring a doctor's prescription for obtaining hypodermic needles is to lower the incidence of drug-related deaths, both accidental and intentional, involving hypodermic needles.; yet everyone would agree that imposing legal restrictions on obtaining knitting needles would be preposterous. Hence the proposed law involving hypodermic makes no sense and should not be enacted.
A) Knitting needles were known to cause injury and death
B) The benefits of hypodermic needles outweigh those of knitting needles
C) But even knitting needles can be lethal if they fall into the wrong hands
D) The proposed law could not be effectively enforced
E) Knitting needles are not readily available to anybody who wants to obtain them
10. From bones found in the United States we have learned that many, many animals no longer found in the world once made their homes here. Sometimes, workers find their bones in pits from which rock and coal have been dug. Other workers who make way for railroad tracks and workers who dig pits for the basements of new buildings sometimes uncover them. Nowadays, scientists know where to look for them.
A) A very large horse used to reside in what is now the United States
B) How workers uncovered bones of extinct animals is important
C) Huge fishes and enormous reptiles swam in the water
D) Bones of extinct animals could have been found only by experts
E) We say that these animals are extinct

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III. READING COMPRESSION

Questions 11-13 are based on the following passage:

The world's nuclear plants have accumulated vast stocks of highly radioactive waste. Worldwide, high-level waste is currently stored above ground, and no government has a clear policy on its eventual disposal. While most experts believe that burying the waste is the safest bet in the long term, the problem is finding sites that everyone can agree are geologically stable. Decaying radioactive isotopes release heat. As a result, high-level waste must be constantly cooled; otherwise, it becomes dangerously hot. This is why many experts want to store waste above ground until it has decayed and is cool enough to be stored safely in sealed repositories several hundreds of meters below ground. According to one recent theory, however, waste should be lowered down boreholes drilled to 4 kilometers. The trick is to exploit heat generated by the waste to fuse the surrounding rock and contain any leaking radioactivity.

11. It is clear from the passage that the safe disposal of radioactive waste ----- .
- A) has been satisfactorily dealt with by scientists in conjunction with governments
 - B) is a problem that each government must decide on for its own country
 - C) remains a global problem of great magnitude
 - D) is a problem that has not attracted enough attention
 - E) will in all likelihood soon be resolved, and a clear policy agreed on by concerned governments
12. As it is pointed out in the passage, many experts are of the opinion that radioactive waste -----.
- A) should never be stored underground as it can not then be monitored
 - B) should not be stored underground while the radioactive isotopes continue to let off substantial amounts of heat
 - C) does not require to be cooled when stored above ground
 - D) cannot be safely disposed of anywhere and the problem of what to do with it intensifies as the amount increases
 - E) can be safely left to cool down underground in sealed repositories
13. The passage describes a new method, still only a theoretical one, for the disposal of radioactive waste, ----- .
- A) which uses bore holes so that all sites are suitable
 - B) at a depth considerably less than that normally recommended but the chosen site must meet certain geological requirements
 - C) which, unfortunately, increases the time needed for cooling the waste before final disposal
 - D) in which the radioactive isotopes are prevented from releasing heat
 - E) whereby the heat produced by that waste will serve to seal it safely into the rock under which it has been buried

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Questions 14-15 are based on the following passage:

Erosion is regarded not merely as the physical removal of soil by water and wind, but rather as the deterioration of all the component parts of the habitat in which man and his crops and livestock have to exist. Since there is no conclusive evidence for any major climatic change in historic times to explain this deterioration, we must conclude that the eroding of the total environment has been due primarily to thoughtless destruction of the vegetative cover. This has led to deterioration of the microclimate above and below the surface, generally in the direction of a general drying out of the soil which has exposed it to erosive action of wind and rainfall of high intensity or frequency, and to the loss of organic matter in the soil, thus reducing its capacity to resist erosion by conserving the water that falls on the surface. If everything possible is done within the total environment to conserve the naturally planted or cultivated vegetation, this will also ensure optimal conservation of soil and water.

14. It is argued in the passage that the impoverishment of the world's habitat
- A) is first and foremost due to man's irresponsible abuse of the vegetable cover of the earth
 - B) is largely due to gradual changes in climate over long years
 - C) became inevitable as soon as agricultural and animal husbandry developed
 - D) cannot be remedied
 - E) has been needlessly exaggerated
15. It is pointed out in the passage that the loss of organic matter in the soil
- A) led to the destruction of the world's vegetative cover
 - B) is a direct result of insufficient rain
 - C) is an irreversible process
 - D) has made the soil more susceptible to erosion
 - E) came about through over planting which robbed the soil of nutrients

Questions 16-25 are based on the following passage:

Since 1980, the use of wind to produce electricity has been growing rapidly. In 1994 there were nearly 20,000 wind turbines worldwide, most grouped in clusters called wind farms that collectively produced 3,000 megawatts of electricity. Most were in Denmark (which got 3 percent of its electricity from wind turbines) and California (where 17,000 machines produced 1 percent of the state's electricity, enough to meet the residential needs of a city as large as San Francisco). In principle, all the power needs of the United States could be provided by exploiting the wind potential of just three states—North Dakota, South Dakota, and Texas.

(Paragraph 1)

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Large wind farms can be built in six months to a year and then easily expanded as needed. With a moderate to fairly high net energy yield, these systems emit no heat-trapping carbon dioxide or other air pollutants and need no water for cooling; manufacturing them produces little water pollution. The land under wind turbines can be used for grazing cattle and other purposes, and leasing land for wind turbines can provide extra income for farmers and ranchers. (Paragraph 2)

Wind power has a significant cost advantage over nuclear power and has become competitive with coal-fired power plants in many places. With new technological advances and mass production, projected cost declines should make wind power one of the world's cheapest ways to produce electricity. In the long run, electricity from large wind farms in remote areas might be used to make hydrogen gas from water during periods when there is less than peak demand for electricity. The hydrogen gas could then be fed into a storage system and used to generate electricity when additional or backup power is needed. (Paragraph 3)

Wind power is most economical in areas with steady winds. In areas where the wind dies down, backup electricity from a utility company or from an energy storage system becomes necessary. Backup power could also be provided by linking wind farms with a solar cell, with conventional or pumped-storage hydropower, or with efficient natural-gas-burning turbines. Some drawbacks to wind farms include visual pollution and noise, although these can be overcome by improving their design and locating them in isolated areas. (Paragraph 4)

Large wind farms might also interfere with the flight patterns of migratory birds in certain areas, and they have killed large birds of prey (especially hawks, falcons, and eagles) that prefer to hunt along the same ridge lines that are ideal for wind turbines. The killing of birds of prey by wind turbines has pitted environmentalists who champion wildlife protection against environmentalists who promote renewable wind energy. Researchers are evaluating how serious this problem is and hope to find ways to eliminate or sharply reduce this problem. Some analysts also contend that the number of birds killed by wind turbines is dwarfed by birds killed by other human-related sources and by the potential loss of entire bird species from possible global warming. Recorded deaths of birds of prey and other birds in wind farms in the United States currently amount to no more than 300 per year. By contrast, in the United States an estimated 97 million birds are killed each year when they collide with buildings made of plate glass, 57 million are killed on highways each year; at least 3.8 million die annually from pollution and poisoning; and millions of birds are electrocuted each year by transmission and distribution lines carrying power produced by nuclear and coal power plants. (Paragraph 5)

The technology is in place for a major expansion of wind power worldwide. Wind power is a virtually unlimited source of energy at favorable sites, and even excluding environmentally sensitive areas, the global potential of wind power is much higher than the current world electricity use. In theory, Argentina, Canada, Chile, China, Russia, and the United Kingdom could use wind to meet all of their energy needs. Wind power experts project that by the middle of the twenty-first century wind power could supply more than 10 percent of the world's electricity and 10-25 percent of the electricity used in the United States. (Paragraph 6)

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16. Based on the information in paragraph 1, which of the following best explains the term wind farms?
- A) Farms using windmills to pump water
 - B) Research centers exploring the uses of wind
 - C) Types of power plant common in North Dakota
 - D) Collections of wind turbines producing electric power
17. The word **emit** in paragraph 2 is closest in meaning to
- A) Use
 - B) Require
 - C) Release
 - D) Destroy
18. Based on the information in paragraph 3 and paragraph 4, what can be inferred about the states of North Dakota, South Dakota, and Texas mentioned at the end of paragraph 1?
- A) They rely largely on coal-fired power plants.
 - B) They contain remote areas where the winds rarely die down.
 - C) Over 1 percent of the electricity in these states is produced by wind farms.
 - D) Wind farms in these states are being expanded to meet the power needs of the United States.
19. According to paragraph 3, which of the following is true about periods when the demand for electricity is relatively low?
- A) These periods are times when wind turbines are powered by hydrogen gas.
 - B) These periods provide the opportunity to produce and store energy for future use.
 - C) These periods create storage problems for all forms of power generation.
 - D) These periods occur as often as periods when the demand for electricity is high.
20. In paragraph 4, the author states that in areas where winds are not steady
- A) Power does not reach all customers
 - B) Wind farms cannot be used
 - C) Solar power is more appropriate
 - D) Backup systems are needed
21. According to paragraph 4, what can be inferred about the problems of visual pollution and noise associated with wind farms?
- A) Both problems affect the efficiency of wind farms.
 - B) Possible solutions are known for both problems.
 - C) Wind power creates more noise than visual pollution.
 - D) People are more concerned about visual pollution than noise.

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22. The phrase **this problem** in paragraph 5 refers to
- A) Interference with the flight patterns of migrating birds in certain areas
 - B) Building ridge lines that are ideal for wind turbines
 - C) The killing of birds of prey by wind turbines
 - D) Meeting the demands of environmentalists who promote renewable wind energy
23. In paragraph 5, why does the author give details about the estimated numbers of birds killed each year?
- A) To argue that wind farms should not be built along ridge lines
 - B) To point out that the deaths of migratory birds exceed the deaths of birds of prey
 - C) To explain why some environmentalists oppose wind energy
 - D) To suggest that wind turbines result in relatively few bird deaths
24. Which of the following statements most accurately reflects the author's opinion about wind energy?
- A) Wind energy production should be limited to large wind farms.
 - B) The advantages of wind energy outweigh the disadvantages.
 - C) The technology to make wind energy safe and efficient will not be ready until the middle of the twenty-first century.
 - D) Wind energy will eventually supply many countries with most of their electricity.
25. The word **project** in paragraph 6 is closest in meaning to
- A) Estimate
 - B) Respond
 - C) Argue
 - D) Plan