

國立彰化師範大學 97 學年度碩士班招生考試試題

系所：翻譯研究所碩士班

組別：甲/乙組

科目：英文(含作文)

☆☆請在答案紙上作答☆☆

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I. Vocabulary 20%

1. Exhilarating effects may result from the caffeine content in coffee.
(A) hypnotic
(B) elating
(C) emaciating
(D) emasculating
2. The essential qualities of Irish art are more easily gauged from a study of her metalwork, of which many examples have survived.
(A) appraised
(B) extracted
(C) expounded
(D) epitomized
3. When caged, magpies are apt to be slothful and bored.
(A) fatigued
(B) indolent
(C) fretful
(D) skittish
4. Walter Benjamin was a trenchant critic of Germany in the first half of 20th century.
(A) an audacious
(B) an incisive
(C) an eloquent
(D) an estimable

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5. Most large species of the sturgeon are palatable.
- (A) agile
 - (B) savory
 - (C) carnivorous
 - (D) diurnal
6. The beat generation in the 1950s sought intense experiences with beatific illumination modeled on some Eastern religions, sometimes even with the use of drugs.
- (A) glamorous
 - (B) hypothetical
 - (C) mollifying
 - (D) blissful
7. Winston Churchill was famous for his mercurial wit.
- (A) impeccable
 - (B) dazzling
 - (C) enigmatic
 - (D) volatile
8. The Roman Emperor Nero is famous for his infamous and nefarious deeds.
- (A) wicked
 - (B) licentious
 - (C) lunatic
 - (D) repulsive
9. President Benjamin Harrison was good at extemporaneous sidewalk speeches.
- (A) piquant

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(B) impromptu

(C) explicit

(D) timely

10. According to astrological beliefs, the sign in the ascendant at the time of one's birth determines one's temperament and liability to certain calamities.

(A) susceptibility

(B) adaptability

(C) immunity

(D) ductility

II. Grammar 10% (You are to identify the one underlined word or phrase that would not be accepted in standard written English.)

1. Both natural and synthetic man-made rubber are of little commercial value in the raw state and cannot be used until they are vulcanized.
A B C D

2. Whatever is worth doing at all is worth doing it well.
A B C D

3. Tanya has something of a penchant by golfing, but Tom has none.
A B C D

4. As every other nation, the United States used to define its unit of currency, the dollar, in terms of the gold standard.
A B C D

5. Either the carpenters or the electrician can store their tools in the shed, but there is no room for both sets.
A B C D

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III. Reading Comprehension 30%

A neutrino is a type of fundamental particle with no electric charge, little or no mass, and one-half unit of spin. It belongs to the family of particles called leptons, which are not subject to the strong nuclear force. Neutrinos are the most freely moving subatomic particles because they react with matter only through a force known as the weak interaction. Neutrinos do not cause molecules to gain or lose electrons, because they are not electrically charged. Only 1 in 10 billion, traveling through matter a distance equal to the Earth's diameter, reacts with another substance. There are three types of neutrino, known to scientists as the electron, muon, and tau.

The electron-neutrino was proposed in the early part of the century by the Austrian physicist Wolfgang Pauli to explain the apparent loss of energy in the process of radioactive decay. The Italian-born physicist Enrico Fermi further elaborated the proposal and gave the particle its name. Electron-neutrinos were first experimentally observed in the 1950's. An electron-neutrino is emitted along with a positron in positive radioactive decay, while an electron-antineutrino is released with an electron in negative radioactive decay.

Another type of neutrino, produced when different types of atomic particles decay, was conclusively shown to be so dissimilar to electron-neutrinos and electron-antineutrinos that it was classified as a completely different species: the muon-neutrino. These new forms of neutrinos are as free moving as the other neutrinos. However, muon-neutrinos have different characteristics when they react with other particles. In the mid-1970s, particle physicists discovered yet another variety of charged neutrino, the tau. Although this third neutrino was definitively identified, there is still very little known about it.

1. What is the main topic of this passage?
 - (A) The movement of particles.
 - (B) Some members of the lepton family.
 - (C) Properties of electrons.
 - (D) Charges of electrons.
2. What causes a positron to be released?
 - (A) Positive radioactive decay.
 - (B) Muon reactions.

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- (C) Electron-antineutrino decay.
- (D) Weak interaction.
3. What was Wolfgang Pauli's research about?
- (A) Naming new particles.
- (B) Radiation energy levels.
- (C) Neutrino movement.
- (D) The strong nuclear force.
4. Why don't neutrinos affect electrons?
- (A) They have no charge.
- (B) They do not come into contact.
- (C) They belong to different families of particles.
- (D) Electrons are smaller.
5. What do we learn about the tau lepton?
- (A) Its movement is predictable.
- (B) The tau lepton is important to radioactive decay.
- (C) It can be broken into several smaller particles.
- (D) The identity of the tau lepton has been confirmed.

Without turbulence, that is, the highly agitated motion of cylinder gases, combustion would take place too slowly for the gasoline engine to function. Predicting combustion behavior in order to design engines with greater fuel efficiency depends on understanding the relationship between vital, turbulent gas motions and burning rate. The challenge is to quantify this relationship—a complex task made more difficult by the requirements of measuring a transient event occurring in a few milliseconds within a small, confined space.

New fundamental knowledge of how turbulence affects flame speed has been revealed in studies

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conducted by Doctors Frederid Matekunas and Edward Groff. Their investigative results have been incorporated into a model that successfully predicts the effect of engine design and operating conditions on power and fuel economy.

The researchers separated their experiments into two phases. In the first phase, they measured turbulence in the engine cylinder; in the second phase, they determined flame speeds over a broad range of operating conditions. Testing took place in a specially designed single—cylinder engine equipped with a transparent piston to permit high—speed filming of the combustion event.

The technique of hot—wire anemometry was applied to measure the turbulent flows while the engine was operated without combustion. Instantaneous velocities were calculated from the anemometer signals and simultaneous measurements of gas temperatures and pressure. More than 400,000 pieces of data were processed for each ten—second measurement period.

6. Which of the following would be the best title for the passage?
- (A) Increasing Engine Velocities
 - (B) New Studies on Turbulence
 - (C) Eliminating Turbulence in the Combustion Process
 - (D) Operating Engines Without Combustion
7. According to the passage, the main purpose of the research into turbulence is to _____.
- (A) protect new cars from damage caused by air and friction
 - (B) design very lightweight engines
 - (C) increase the number of miles a car gets per gallon of gasoline
 - (D) reduce the cost of producing cars
8. The job of measuring the burning rate as related to turbulence is complicated because of the _____.
- (A) cost of using the measuring equipment
 - (B) inaccuracy of current measuring devices
 - (C) number of people needed to monitor the equipment
 - (D) brief time involved in the process of combustion

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9. It was possible to take pictures of combustion occurring in one engine because _____.

- (A) a piston that allowed light to pass through it was used
- (B) special cameras were fitted inside the piston
- (C) a new kind of camera became available to researchers
- (D) a position was forced to run at slow speed

10. The purpose of using anemometry was to _____.

- (A) calculate fuel use
- (B) observe gases in motion
- (C) increase piston speed
- (D) raise burning temperatures

The manner in which desert locust plagues develop is very complex, but the two most important factors in that development are meteorology and the gregariousness of the insect. Since locusts breed most successfully in wet weather, rain in the semiarid regions inhabited by the desert locust provides ideal breeding conditions for a large increase in population. This increase must be repeated several times in neighboring breeding areas before enough locusts crowd together to form a swarm. As the supply of green, palatable food plants decreases toward the end of the rainy season, the locusts become even more concentrated. They move on to other warm, damp, verdant places where they settle, feed, and reproduce. As this process is repeated a swarm eventually develops. Plagues are unpredictable and irregular because the meteorological patterns favorable to crowding are themselves irregular.

11. The passage deals primarily with desert locust swarms and their _____.

- (A) plagues
- (B) reproduction
- (C) formation
- (D) unpredictability

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12. According to the author, which of the following is NOT an important factor in the growth of desert locust swarms?
- (A) An abundant food supply
 - (B) Large population increases
 - (C) Rain in the semiarid regions
 - (D) The gregarious nature of locusts
13. According to the passage, a decrease in the number of palatable food plants causes_____.
- (A) a decrease in the number of locusts
 - (B) death to the local locust population
 - (C) a heavier concentration of locusts
 - (D) increased breeding of locusts
14. It can be inferred from the passage that in periods of little or no rain the locust population becomes_____.
- (A) smaller
 - (B) denser
 - (C) more active
 - (D) more unpredictable
15. The next paragraph would most probably deal with _____.
- (A) the gregarious nature of locusts
 - (B) rain patterns in the desert
 - (C) the type of food plants preferred by locusts
 - (D) the control of locust plagues

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IV. English Composition 40%

Topic: On Cross-Strait Relations to International Relations

Our country has been experiencing serious troubles in international relations since the World War II, not only due to the Civil War between the upcoming ruling party KMT and the Communist Party ruling today's China, but also to the power struggles between the super powers in the world, such as the US and Russia. Write an essay offering your opinions about this issue and how you can contribute your effort to advance our country's diplomatic future.