

一、詞彙、片語及文法(單選，每題2分，共50分)

1. The man injured in the car crash regained _____ after receiving CPR. (A) power (B) money (C) dignity (D) consciousness
2. The doctor _____ on Mr. Smith yesterday. It is only a matter of time before he recovers his full strength. (A) relied (B) attended (C) operated (D) informed
3. Clothes made of _____ fiber such as wool and cotton are more expensive than those made of synthetic fiber such as nylon. (A) artificial (B) natural (C) coarse (D) fine
4. The survivors of the super typhoon were in _____ need of help, extremely desiring timely financial rescue. (A) dominant (B) distinct (C) distinguished (D) desperate
5. My _____ source of income is teaching. But I find it difficult to survive on that alone, so I write novels after class. It brings in a small sum of extra money. (A) reliable (B) original (C) unnamed (D) principal
6. The company held an interview to look for someone qualified to fill this _____. (A) vacancy (B) candidate (C) wage (D) advertisement
7. It had not rained for a long time. The mayor held an incense stick and knelt down in _____ to God. (A) response (B) prayer (C) obedience (D) opposition
8. Very young children should not be left to play alone without proper _____. There should always be adults around them lest something dangerous happen. (A) suspicion (B) suspense (C) supervision (D) superstition
9. He had _____ more than 500 poems by the time he was 20. (A) contained (B) composed (C) consisted (D) coincided
10. Before Mr. Stevens died, he had drawn up a _____ in which he stated that he would donate his collection of paintings to a designated museum. (A) report (B) will (C) contract (D) treaty
11. The police have taken measures to _____ the increase of thefts. (A) respect (B) refund (C) restrain (D) remind
12. The _____ majority of the townsfolk are for tearing down the old building, while a very small number of them are against it. (A) overwhelming (B) passive (C) specific (D) organized
13. Though given only a few clues, the experienced detective _____ that the murderer must be familiar with the victim. (A) resumed (B) generalized (C) discredited (D) deduced
14. After 40 minutes of keen competition, the game ended in a _____. Neither team got the better of the other. (A) tie (B) victory (C) fight (D) tragedy

15. Thanks to the strict enforcement of traffic regulations, there has been a _____ in the rate of deaths from traffic accidents. (A) decline (B) crack (C) disgrace (D) denial
16. Look at the way the couple _____ to each other. They must have been in love for a long time. (A) have talked (B) talked (C) will talk (D) are talking
17. Most of his novels _____ political conflicts in Chinese history. (A) catch up (B) come up with (C) draw upon (D) drive away
18. _____ giving up on his research, the biologist worked even harder to prove that his theory was sound. (A) Instead of (B) Although (C) When (D) Known for
19. Josh received his returned application for the position of Sales Director, which came back this morning _____ "rejected." (A) and marked (B) to mark (C) marked (D) marking
20. Are you willing to _____ the responsibility of being the sales manager? (A) take on (B) abide by (C) bump into (D) turn on
21. Like most other ancient structures, these figures are believed _____ some religious function. (A) to have (B) to have had (C) they have had (D) they had
22. Steven Spielberg _____ one of the most successful directors in the American film industry. (A) is put down as (B) is regarded as (C) serves as (D) poses as
23. I waited for more than one hour. You _____ me that you had something else to do, but you didn't. (A) could have told (B) would have told (C) could tell (D) should tell
24. She was not able to show her musical talent _____ self-confidence when faced with a large audience. (A) lacked in (B) for lack of (C) to lack in (D) by a lack of
25. It _____ him that he should examine the old files carefully again. (A) flashed into (B) came up (C) occurred to (D) was up to

二、閱讀測驗 (單選最適合答案, 每題2分, 共24分)

根據下文回答第26-28題

It has been believed that there is a close relationship between salt and high blood pressure. Since high blood pressure is a major cause of strokes, a high salt intake may result in a stroke. That is why newspapers are full of articles about the "white death." Thus, it seems wise to keep our intake to moderate levels.

However, this is easier said than done. The modern western diet contains a high proportion of processed food—just ask yourself how many cans you have opened this week, or what you currently have in your freezer, and you'll get the point. Processed foods are very high in salt and, not surprisingly, most of the salt we eat comes from these processed foods.

26. The "white" in line 3 refers to _____. (A) stroke (B) death (C) salt (D) food
27. The passage suggests that it is _____ to keep our intake to moderate levels.

(A) difficult (B) easy (C) possible (D) essential

28. The author might advise us to _____. (A) eat processed foods (B) ignore the debate of salt (C) monitor our intake of salt (D) eat natural food

根據下文回答第29-32題

Active learning is “doing”, and this leads to understanding. One good example of active learning is this: Deliver a talk in front a class. To do this requires a lot of preparation and understanding of the material to be presented and, after it is done, the subject will be fully understood by the individual who delivered the talk.

In most classrooms, however, the one, i.e. the student, who should be the most active is, in fact, the least active. They just sit passively and listen. It is absurd that the one who knows the material best, i.e. the teacher, is the most active in the classroom. This goes against the principle of active learning.

To promote active learning in the classroom, students should be trained to ask questions in class. Questions from interested students provide important feedback that lets the teacher know what was perhaps missed by students or what needs further explanation.

Students should not rely only on what the teacher presents in class. They should actively seek other sources of information, and discuss them with their classmates.

29. The passage suggests that _____. (A) students are required to decide what the teacher should teach (B) students should take part in the learning of the teaching material (C) the teachers are supposed to know what needs further explanation (D) the teacher should ask his student questions

30. Questions asked by students are helpful in several ways. Which of the following is NOT one of them? (A) The student who asks questions can understand better. (B) The teacher can know which part of his lecture should be clarified. (C) The teacher can know which part of his lecture might have been ignored by his students. (D) The teacher can use them to evaluate students' performances.

31. Active learning involves several things. Which of the following if NOT one of them? (A) listening and memorizing (B) gathering information (C) discussing with classmates (D) delivering a talk in front a class

32. The author considers it is ridiculous that _____. (A) the material which students find is better than what the teacher presents (B) students are required to deliver a talk (C) the teacher is the most active in the classroom (D) Chinese students are passive learners

根據下文回答第33-37題

During the summer, many people go to the beach to get a tan. They lie on the beach and let the sun shine on them. The sun not only helps people get a tan but it is the most important source of energy for the earth. Nearly all the plants on earth depend on the sun to help them grow.

The sun is a star, just like the other stars we see at night. The only difference is distance. Other stars are very far away, while our sun is very close. The sun is classified as a G2-type star based on its size and the kind of light it emits. The sun is special to us; however, it is an average star, just one of billions of stars in our galaxy.

There are many types of stars in the universe. Those called Red Giants are often fifty times bigger than our sun and can shine a million times brighter. There are also smaller stars called White Dwarfs that are about the same size as earth.

Scientists classify stars by how bright they are. The brightest are first magnitude stars, while the faintest are sixth magnitude. The sun is a fourth magnitude star. The color of a star is also closely related to its surface temperature. Red stars have a temperature of around 3,000°C and white stars have temperatures above 20,000°C. The sun's surface temperature is around 6,000°C.

The sun is composed mainly of hydrogen and helium gases and has been burning for 4.5 billion years. Scientists believe the sun has enough gas to burn for 10 billion years. The sun is very important to our survival on earth. It keeps our planet warm and gives us life. Scientists are trying to find other stars in the galaxy similar to our sun, hoping that there will be other planets like earth that can sustain life.

33. The sun _____. (A) has enough gas to burn for another 5.5 billion years (B) is fifty times as large as a Red Giant (C) can shine a million times brighter than a White Dwarf (D) is a very rare and special star in our galaxy

34. As Celsius degree to temperature, so is _____ to brightness of the star. (A) distance (B) size (C) magnitude (D) color

35. What can we assume from the passage? (A) Scientists have found other stars similar to our sun. (B) The color of the sun is neither red nor white. (C) The sun can be classified as one of the brightest stars. (D) The sun is a G2-type star because it is close to us.

36. What technique does the writer use in the introduction? (A) State the number and types of the stars. (B) Describe how he is going to classify the stars. (C) Explain the purpose for the classification. (D) Provide background information about the sun.

37. A galaxy is made up of numerous _____. (A) gases (B) stars (C) giants (D) dwarfs

三、翻譯，寫出下列英文名詞的中文(每題2分，共20分)

38. Antarctic circle 39. global warming 40. globalization 41. statistics
42. evolution 43. revolution 44. consumer 45. customer
46. horizon 47. latitude

四、請寫出下列中文名稱的英文(每題3分，共6分)

48. 國立中山大學 49. 海洋科學學士學程

Do all problems in detail.

1. (a) Let $f(x) = (x - 1)^4(x + 1)^2$. Find $f'(2)$. [10%]

(b) Let $f(x) = \frac{\ln x}{x}$. Find $f'(x)$. [10%]

2. Let $f(x) = 2x^3 - 3x^2 + 3$.

(a) Find all relative maxima and minima of f . [10%]

(b) Evaluate $\int_0^1 f(x) dx$. [10%]

3. (a) Evaluate $\int_2^3 \frac{1}{x^2-1} dx$. [10%]

(b) Evaluate $\int_0^1 xe^x dx$. [10%]

4. Let $f(x, y) = x^2 - 2x + y^2 + 2y + 3$.

(a) Find $f_x(x, y)$ and $f_y(x, y)$. [10%]

(b) Find all relative maxima and minima of f . [10%]

5. (a) Evaluate $\int_0^1 \int_1^2 (x + 2y) dy dx$. [10%]

(b) Evaluate $\int_0^1 \int_0^{\sqrt{1-x^2}} \sqrt{x^2 + y^2} dy dx$. [10%]