

ENGLISH TEST

General Guidelines

The English Test will test your ability in understanding English structures and reading texts. It employs a multiple choice format, and it takes **90 minutes** to do the test.

The test comprises two following parts:

1. Part 1: 40 numbers of **Structure and Written Expression**
2. Part 2: 60 numbers of **Vocabulary and Reading Comprehension**

You may choose to begin work on ANY part.

For each number, you may only choose ONE answer. Giving more than one answer will not give you any point for that number.

For each number, you will see four possible answers, marked (A), (B), (C) and (D). Choose one option, and then on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen. Fill in the space so that the letter inside the circle cannot be seen.



The questions are given in a variety of difficulty levels. You should try to answer all of them, as there is NO PENALTY for incorrect answers.

Directions for each part of the test will be given at the beginning of each part.

If you find an error in any printed item of the test, just guess the answer as best as you can and continue.

SECTION 1

STRUCTURE AND WRITTEN EXPRESSION

This section is designed to measure your ability to recognize language that is appropriate for standard written English. There are two types of questions in this section, with special directions for each type.

Directions: Questions 1-15 are incomplete sentences. Beneath each sentence you will see four words or phrases, marked (A), (B), (C), and (D). Choose the one word or phrase that best completes the sentence. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen. Fill in the space so that the letter inside the oval cannot be seen.

Example I

.....are found in virtually every country in the world.

Sample Answer

(A) (B) ☒ (D)

- (A) Swamps and marshes which
- (B) When swamps and marshes
- (C) Swamps and marshes
- (D) Now that swamps and marshes

The sentence should read, "Swamps and marshes are found in virtually every country in the world." Therefore, you should choose answer (C).

Example II

Milk is pasteurized by heating it for thirty minutes at about 63° Centigrade, rapidly cooling it, and thenit at a temperature below 10° Centigrade.

Sample Answer

(A) (B) (C) ☒

- (A) to store
- (B) store
- (C) be stored
- (D) storing

The sentence should read, "Milk is pasteurized by heating it for thirty minutes at about 63° Centigrade, rapidly cooling it, and then storing it at a temperature below 10° Centigrade." Therefore, you should choose answer (D).

Now begin work on the questions.

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1. Taxpayers should fulfill their tax obligation within the prescribed time; _____ they will be liable to heavy fines
 (A) whenever
 (B) otherwise
 (C) nonetheless
 (D) likewise
2. The Borobudur Temple, which _____ and neglected for a thousand years, was rediscovered in 1814 by Thomas S Raffles, who was the Lieutenant-Governor of Java from 1811 to 1816.
 (A) left
 (B) was left
 (C) had been left
 (D) may have been left
3. When monarch butterflies _____ to the south, they remain on course by following the magnetic field that leads to their destination.
 (A) migrating
 (B) migrate
 (C) on migration
 (D) to migrate
4. Famous for their exotic beauty and great commercial value, _____ for export around the world.
 (A) cultivating orchids in tropical countries
 (B) the cultivation of orchids is good business
 (C) orchids are best cultivated in tropical countries
 (D) tropical countries are best for cultivating orchids.
5. The company's financial records will be audited by a foreign company _____ since the 1980s.
 (A) its operation in Jakarta
 (B) operated in Jakarta
 (C) to operate in Jakarta
 (D) operating in Jakarta
6. Italy was the first country _____ in workplaces in 2004
 (A) to impose a non-smoking rule
 (B) when a non-smoking rule was imposed
 (C) by imposing a non-smoking rule
 (D) who imposed a non-smoking rule
7. Some species of lizards change their diet _____ seasonal changes in the availability of food.
 (A) in style with
 (B) in addition to
 (C) in line with
 (D) instead of
8. Scientists _____ unremitting stress would cause damage to the body's immune system.
 (A) that long have suspected
 (B) have long suspected that
 (C) that have suspected long
 (D) have suspected long that
9. The method _____ was raised in early childhood can leave a mark, if not a scar, on the person's personality later in life.
 (A) by which a person
 (B) of how a person
 (C) on what a person
 (D) in which a person
10. The opossum is able to confuse its predators and escape from death by _____ to be dead.
 (A) to pretend
 (B) it pretends
 (C) the pretence of
 (D) pretending

11. Compact fluorescent lamps not only use up to 70% less electricity than incandescent lamps, _____.
- (A) but also long-lasting
 - (B) and last for a long time
 - (C) but also last longer
 - (D) and has a longer life time
12. The Norwegian coast, known for its rugged, high cliffs and deep fjords, offers _____ that it attracts thousands of tourists each year.
- (A) very impressive panorama
 - (B) the most impressive panorama
 - (C) such an impressive panorama
 - (D) its most impressive panorama
13. In arrhythmia, _____ of the heartbeat, the heart is not able to pump enough blood to the body, which may cause damage to the brain, heart and other organs.
- (A) is a problem with the rhythm
 - (B) the rhythm is a problem
 - (C) it is a problematic rhythm
 - (D) a problem with the rhythm
14. According to a recent study, _____ from pollinations by adult butterflies and moths.
- (A) It is for the benefit of some flowering plants
 - (B) some flowering plants greatly benefit
 - (C) for some flowering plants the benefit
 - (D) it is of benefit to some flowering plants
15. The mineral content in human bones decreases with age, _____ fragile and easy to break.
- (A) it makes them
 - (B) and are made
 - (C) making them
 - (D) as they are made

Directions: In questions 16-40 each sentence has four underlined words or phrases. The four underlined parts of the sentence are marked (A), (B), (C), and (D). Identify the one underlined word or phrase that must be changed in order for the sentence to be grammatically correct. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen.

Example I

Sample Answer

(A) (B) (C) (D)

Meadowlarks are about the same size than robins.

but they have heavier bodies, shorter tails, and

longer bills.

The sentence should read, "Meadowlarks are about the same size as robins, but they have heavier bodies, shorter tails, and longer bills." Therefore, you should choose answer (B).

Example II

Sample Answer

(A) (B) (C) (D)

When overall exports exceed imports, a country said
to have a trade surplus.

The sentence should read, "When overall exports exceed imports, a country is said to have a trade surplus." Therefore, you should choose answer (C).

Now begin work on the questions.

16. The heart is divided into four chambers, each of which performs their own function in the cycle of pumping blood.

17. Money laundering is the practice of to cover up the source of illegally obtained money by investing it in legal businesses.

18. The worst example of water pollution in China, caused by decades of toxic contamination, is Tai Lake, which is the source of fresh water for 30 millions people.

19. According to the questionnaires, only a minority of students are stating that statistics is more difficult than economy.

20. A heavy orangutan can easy climb and swing in trees because of its strong arms and hands that are adapted to grasping branches.

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21. The wild buffalo in the mountains of Canada is much bigger and more aggressive from the common Asian buffalo.
A B C D
22. In January 2013, President Raul Castro ended a five-decades-long policy on limited international travel for Cuban citizens.
A B C D
23. Although the medicine benefit of garlic is still debatable, people firmly believe that garlic can help lower blood pressure.
A B C D
24. The magazines for entertainment, relax, and information can be traced back to Australia in the early years of the nineteenth century.
A B C D
25. Coral reefs can only grow good and flourish in warm, shallow, and clear seawater without any clay or silt particles.
A B C D
26. Whenever service charges are already included in the restaurant bill, customers do not need leaving a tip for the waiter.
A B C D
27. Keeping a part-time job on top of a full-time study is not longer an option but a necessity for many students as this helps them cover the rising cost of living.
A B C D
28. Alike the three other types of algae — red, blue, and black — the blue-green algae use photosynthesis, but is classified under a different category.
A B C D
29. A galaxy is a gigantic family cluster consisting of millions of stars that are hold together by the galaxy's own gravitational field.
A B C D
30. The easy terms on loans provided by banks for the purchase of a motorcycle enable more people to enjoy own a means of private transportation.
A B C D
31. Colorful fruits and vegetables contain antioxidants which can decrease risk of inflammation in the arteries.
A B C D
32. Whether there is a causal link between economic well-being and health is fully confirmed by social scientists.
A B C D

33. Taking^A the United States by great surprise, the Soviet Union had launched^B the world's first satellite into orbit on^C October 4, 1957.^D
34. The article on oil resources shows^A that, at^B the present rate of demand, there is enough oil in the world to lasting^C for 40 years, while^D the supply of coal can last for more than 250 years.
35. Infused with symbolic significant^A in all parts^B of the world, red roses are the^C symbol of love, whereas white roses mean purity^D and innocence.
36. Even though^A nuclear power supplies^B only 5% of the world's energy from more than 400 nuclear plants, many countries have stopped to construct^C new nuclear reactors.^D
37. A problem^A of finding a safe method for the disposal of^B nuclear waste^C has brought the development of nuclear power as an alternative^D source of energy to a standstill.
38. Encouraging^A city residents to be energy-efficient, the mayor of a city in Germany subsidizing^B the installation^C of solar panels in new housing constructions.^D
39. Robotics is^A a complex field which combines electronics^B, computer science and mechanic^C engineering.^D
40. The warnings on the effects^A of global warming frequently heard in the past years, has^B come true as we now experience climate disruptions^C that are spiraling into^D calamities.

THIS IS THE END OF SECTION 1

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SECTION 2

VOCABULARY AND READING COMPREHENSION

Directions: In this section you will read several passages. Each passage is followed by questions about it. Choose the one best answer, (A), (B), (C), or (D), for each question. Then, on your answer sheet, find the number of the question and fill in the oval that corresponds to the letter of your answer choice. Answer all questions based on what is stated or implied in the passage.

Read the following passage:

A new hearing device is now available for some hearing-impaired people. This device uses a magnet to hold the detachable sound-processing portion in place. Like other aids, it converts sound into vibrations. But it is unique in that it can transmit the vibrations directly to the magnet, and then to the inner ear. This produces a clearer sound. The new device will not help all
Line (5) hearing-impaired people, only those with a hearing loss caused by infection or some other problem in the middle ear. It will probably help no more than 20 percent of all people with hearing problems. Those people, however, who have persistent ear infections should find relief and restored hearing with the new device.

Example I:

What is the author's main purpose?

Sample Answer

(A) ☒ (B) ☐ (C) ☐ (D) ☐

- (A) to describe a new cure for ear infections
- (B) to inform the reader of a new device
- (C) to urge doctors to use a new device
- (D) to explain the use of a magnet

The author's main purpose is to inform the reader of a new device for hearing-impaired people. Therefore, you should choose answer (B).

Example II:

The word "relief" in line 7 means

Sample Answer

☒ (A) ☐ (B) ☐ (C) ☐ (D) ☐

- (A) less distress
- (B) assistance
- (C) distraction
- (D) relaxation

The phrase "less distress" is similar in meaning to "relief" in this sentence. Therefore, you should choose answer (A).

Now begin with the questions.

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Questions 41 - 50

In E. B White's beloved novel *Charlotte's Web*, an old sheep advises the *gluttonous* rat Templeton that he would live longer if he ate less. "Who wants to live forever?" Templeton sneers, "I get untold satisfaction from the pleasures of the feast." It is easy to empathize with Templeton, but the sheep's claim has some merit. Studies have shown that reducing typical calorie consumption, usually by 30 to 40 percent, extends life span by a third or more in many animals, including nematodes, fruit flies and rodents. When it comes to calorie restriction in primates and people, however, *the jury is still out*. Although some studies have suggested that monkeys that eat less live longer, a new 25-year-long primate study concluded that calorie restriction does not extend average life span in rhesus monkeys. Even if calorie restriction does not help anyone live longer, a large portion of the data supports the idea that limiting food intake reduces the risks of diseases common in old age and lengthens the period of life spent in good health.

If only one could claim those benefits without being hungry all the time, there might be a way. In recent years researchers have focused on a strategy known as intermittent fasting as a promising alternative to continuous calorie restriction.

Intermittent fasting, which includes everything from periodic multiday fasts to skipping a meal or two on certain days of the week, may promote some of the same health benefits that uninterrupted calorie restriction promises. The idea of intermittent fasting is more palatable to most people because, as Templeton would be happy to hear, one does not have to renounce the pleasures of the feast. Studies indicate that rodents that feast one day and fast the next often consume fewer calories overall than they would normally and live just as long as rats eating calorie-restricted meals every single day.

In a 2003 mouse study overseen by Mark Mattson, head of the National Institute on Aging's neuroscience laboratory, mice that fasted regularly were healthier by some measures than mice subjected to continuous calorie restriction; they had lower levels of insulin and glucose in their blood, for example, which signified increased sensitivity to insulin and a reduced risk of diabetes.

Religions have long maintained that fasting is good for the soul, but its bodily benefits were not widely recognized until the early 1900s, when doctors began recommending it to treat various disorders—such as diabetes, obesity and epilepsy. Related research on calorie restriction took off in the 1930s, after Cornell University nutritionist Clive McCay discovered that rats subjected to stringent daily dieting from an early age lived longer and were less likely to develop cancer and other diseases as they aged, compared with animals that ate at will. Research on calorie restriction and periodic fasting intersected in 1945, when University of Chicago scientists reported that alternate-day feeding extended the life span of rats as much as daily dieting in McCay's earlier experiments. Moreover, intermittent fasting "seems to delay the development of the disorders that lead to death," the Chicago researchers wrote.

41. The main subject of the passage is
- (A) fasting is good for your body and soul.
 - (B) engaging in a strict diet will prevent cancer.
 - (C) fasting now and then will lead to a healthier and longer life.
 - (D) limiting your food intake can make you live 30 to 40 years longer.

42. The word *gluttonous* in line 1 can be best replaced by
- (A) cheerful.
 - (B) greedy.
 - (C) ignorant.
 - (D) plump.

43. The expression *the jury is still out* in line 6 is closest in meaning to
(A) nobody will ever know the answer.
(B) the fact has not been confirmed.
(C) the jury has not returned to the room.
(D) the jury has not come to a verdict.
44. With which statement would probably the writer agree with?
(A) That people should cut down on food.
(B) That diet should be based on age and gender.
(C) That people should fast every now and then.
(D) That people should be allowed to eat at will.
45. The author quotes the dialogue of two characters in E.B White's *Charlotte* because
(A) Rats and sheep usually engage in different diets.
(B) The two characters have opposing views on feasting and fasting.
(C) The author intends to show the merit of fasting to young children.
(D) It draws people's attention to the need to control calorie intake.
46. The word 'it' in line 27 refers to
(A) fasting.
(B) soul.
(C) obesity.
(D) epilepsy.
47. All of the following are given in the passage as the example of disorder at the turn of the century EXCEPT
(A) obesity.
(B) epilepsy.
(C) diabetes.
(D) cancer.
48. According to the passage when was a milestone in the research on calorie restriction achieved?
(A) 1900s
(B) 1930
(C) 1945
(D) 2003
49. The paragraph that follows the last paragraph most likely deals with
(A) the calorie intake to prevent death.
(B) ways to avoid premature death.
(C) current research on anti-aging.
(D) the life of the elderly in Chicago.
50. The passage would probably be part of an assigned reading in which of the following courses?
(A) Biology
(B) Nursing
(C) Nutrition
(D) Religion

Questions 51 - 60

As sulfur cycles through Earth's atmosphere, oceans and land, it undergoes chemical changes that are often coupled to changes in other such elements as carbon and oxygen. Although this affects the humble bee is being put to work. However, they are not just making honey; they are busy being

Line trained to sniff out drugs and explosives. By becoming 'sniffer bees', the honeybee, *Apis mellifera*,
(5) could soon be used to combat national security threats and drug smuggling. Honeybees have an acute olfactory sense, which can be thought of as a very sensitive sense of smell. By training the bees to associate an odor with a reward, scientists are able to train the bees to detect almost any odor.

(10) This technology, which has been developed by Inscentinel Ltd., a small spin-out company based at Rothamsted Research in Harpenden, has a variety of potential applications, including the detection of illegal drugs and explosives in airport security and the military, as well as in medical diagnostics and food quality control. "Bees are at least as good as sniffer dogs but are cheaper and faster to train, and available in much larger numbers. It is dependent on the specific odor, but bees can detect some odors that are present in parts per trillion - that's equivalent to detecting a grain of salt in an Olympic-sized swimming pool," says Dr Nesbit, a research scientist at Inscentinel Ltd.

Honeybees have the ability to learn and memorize. The bees are loaded onto individual holders where they sit comfortably whilst exposed to an odor which is passed over them in short pulses. Whilst exposed to the odor, the bees are *simultaneously* rewarded with a small drop of sugar syrup, which the bees stick their proboscis (tongue) out to receive. This is a classical Pavlovian conditioning
(20) method. Once conditioned, if the bees pick up the odor they have been trained to detect, they stick their probosces out in anticipation of the syrup, before the syrup is offered. This proboscis extension reflex is the signal that the scientists use to determine successful conditioning. It takes between two and eight rounds of training which is completed in just a few hours, with the reflex lasting for several days.

(25) Once trained, up to thirty six bees are loaded into a handheld sensing device. The bees can be trained to detect the same odor, or smaller groups of bees can be trained to detect different odors within the same device. The bees are exposed to a constant stream of clean, filtered air until a sample of air from an area requiring testing is sucked into the machine. An optical sensor records any bees extending their proboscis, which is then interpreted by software. Based on a statistical
(30) population of bees, a simple odor present/absent response follows. The whole detection process takes around six seconds. The bees are not harmed whilst performing their sniffing duties; the health and comfort of the bees dictates the performance of the sensing device. Each bee works for a maximum of a two-day shift before it is returned, healthy and unharmed, to the hive, to enjoy the rest of its life working for its colony.

(35) Nesbit explained that the bees have potential uses in other fields as well as national security. Her team is currently involved with a project commissioned by a fruit juice factory who wants to use the bees to detect if the oranges they buy for juicing are infested with storage pests. Alternatively, the bees can also be used in medical diagnostics. As some diseases are linked to a specific odor being released in the urine, blood or breath, the bees can be used as a method of detection, producing a
(40) medical diagnosis.

51. The following are questions that the passage tries to address EXCEPT
- (A) Why do honeybees have a very acute sense of smell?
 - (B) What are the potential uses of honeybees in other fields?
 - (C) How can honeybees be trained to detect drugs and explosives?
 - (D) What qualities of honeybees are superior to those of detector dogs?

52. The word "acute" in line 6 means
- (A) piercing.
 - (B) violent.
 - (C) focal.
 - (D) sharp.

53. According to the passage, which of the following is NOT TRUE about sniffer dogs?
- (A) Their sense of smell is inferior to honeybees'.
 - (B) It takes a lot of time to train them properly.
 - (C) Their training cost can be very expensive.
 - (D) They are only available in limited numbers.
54. Which of the following best expresses the meaning of the phrase "simultaneously" in line 18?
- (A) Separately
 - (B) Concurrently
 - (C) Consecutively
 - (D) Significantly
55. Which of the following statements about a classical Pavlovian conditioning method can be inferred from the passage?
- (A) It involves the use of rewards to stimulate certain reflexes.
 - (B) Humans can also be conditioned to produce certain behaviors.
 - (C) Scientists prefer performing this method on bees instead of dogs.
 - (D) Honeybees may receive some punishment if they do not perform well.
56. According to the passage, the following statements about sniffer bees are true EXCEPT
- (A) They do not work for more than two days.
 - (B) They can be trained to detect almost all scents.
 - (C) They have the ability to learn and remember things.
 - (D) They no longer make honey for the rest of their lives.
57. According to the passage, the maximum number of sniffer bees in one group is
- (A) sixty.
 - (B) thirty six.
 - (C) thirty.
 - (D) six.
58. It can be inferred from the fourth paragraph that
- (A) Trained honeybees become more productive in the original colony than untrained ones.
 - (B) It is possible to interpret bees' responses without using software and an optical sensor.
 - (C) If honeybees are overworked, their performance as a sensing device will decline.
 - (D) Honeybees can work better if they are exposed to various types of odors.
59. The author's attitude toward the use of honeybees for the national security is generally
- (A) hesitant.
 - (B) daunting.
 - (C) appreciative.
 - (D) inconsiderate.
60. According to the passage, honeybees can be trained for the following tasks EXCEPT
- (A) controlling food quality.
 - (B) providing medical information.
 - (C) identifying drugs and explosives.
 - (D) detecting trails in various crime scenes.

Questions 61 - 70

The simple chicken's egg has long been known as a symbol of new life. But less well known is that eggs can be turned into incubators to produce a raft of other molecules, including agents to combat infection. The human immune system responds to *foreign* substances by producing antibodies, which are specialised proteins that bind to invading organisms and toxins, block their activity and target them for destruction by other members of the immune *infantry*. Antibodies also circulate for extended periods in the blood, providing long-term protection against any of the same bugs that might try to make a comeback. Mothers protect their offspring by *siphoning off* some of their own antibodies and adding them to the foetal circulation during the latter part of pregnancy. The same is also true of chickens, but with the difference that they add their antibodies to the yolks of the eggs they lay.

Therein lies a therapeutic opportunity, because exposure to specific viruses or bacteria triggers chickens to produce antibodies against these organisms. And if a chicken is injected with samples of the same pathogens, this also achieves the same effect. In fact, within just a few weeks, every egg the chicken lays will contain high levels of antibodies specifically targeting those viruses or bacteria. Moreover, these antibodies can be purified from the yolks to produce what is almost antibodies on-tap.

But how can these egg-yolk-antibodies be used to treat infections? Giving pre-formed antibodies to people who have been exposed to a particular infectious agent has long been recognised as a way of limiting disease. Historically, these antibodies have been obtained from horses or humans, but there have been several problems associated with using this technique. Horses can produce large amounts of antibody for human use, but severe hypersensitivity (allergic) reactions can develop in some people. This is because the human body recognises the horse proteins as foreign and mounts its own, occasionally overzealous response. Human antibodies bind to the horse antibodies, forming molecular complexes, which clog up small blood vessels, settle in joints and sometimes attack the kidneys, resulting in a condition called serum sickness. To avoid this issue, the only antibodies currently used therapeutically in this way in the UK are obtained from healthy human donors. These are individuals who have previously been vaccinated against the agent for which antibodies are needed. These antibodies are collected by purifying them from the blood of the donors. This method is consequently inefficient and expensive.

The strategy of giving pre-made antibodies to fight infection is known as passive immunization. Following exposure to any new pathogen, a normal immune system takes at least five days to produce its own antibodies. For some infections this is too long. Certain bacteria and viruses are exceptionally good at surviving inside cells where antibodies offer little protection. Instead, immediate treatment with antibodies from other sources helps to eliminate these invading pathogens before they have a chance to invade and replicate.

The effectiveness of chicken egg antibodies has been tested in laboratories against a wide variety of viruses and bacteria including rotaviruses, which cause diarrhea in infants, and the dreaded noroviruses that cause gastroenteritis in 3 million people in the UK every year. Studies have shown that chicken egg antibodies are also active against *Helicobacter pylori*, the primary cause of gastric ulcers and, experimentally, and, in tests on mice, can also limit disease caused by *Vibrio parahaemolyticus*, a bacterium responsible for many outbreaks of gastroenteritis following ingestion of undercooked seafood.

61. What is the topic of the passage?
- (A) The benefit of egg yolks to kill bacteria
 - (B) The process of obtaining serum using chicken eggs
 - (C) Treating diseases using protein extracted from eggs
 - (D) Using eggs as the incubator for infection-fighting serum

62. The word *foreign* in line 3 can be best replaced by
- (A) overseas.
 - (B) exotic.
 - (C) offshore.
 - (D) alien.

63. According to the passage, the functions of antibodies are as listed below EXCEPT
(A) tie themselves to foreign organisms and toxins.
(B) stall the activity of unknown organisms and toxins.
(C) duplicate the foreign organisms and toxins.
(D) destroy the invading organisms and toxins.
64. In line 5, the author chose the word *infantry* most likely to describe
(A) the appearance of the antibodies.
(B) the sheer number of the antibodies.
(C) the destructive nature of the antibodies.
(D) the march of the antibodies.
65. The word *siphon off* in line 7 is closest in meaning to
(A) draw out.
(B) leak.
(C) steal.
(D) embezzle.
66. According to the passage using serum that comes from horses is not effective for the following reasons EXCEPT
(A) People can develop some allergies to it.
(B) It risk forming molecular complexes.
(C) The process is prohibitively expensive.
(D) It can clog the vein and attack the kidneys.
67. According to the passage the benefit of passive immunization includes
(A) its ability to stop pathogens from invading and replicating.
(B) the long days it takes to produce antibodies.
(C) its ability to offer protection inside cells.
(D) its close exposure to pathogens.
68. The chicken's egg antibodies have been proven to be effective to combat all of the following EXCEPT
(A) helicobacter pylori.
(B) vibrio parahaemolyticus.
(C) rotaviruses.
(D) common cold viruses.
69. According to the text which experiment has NOT apparently been conducted on humans?
(A) The experiment on rotaviruses
(B) The experiment on noroviruses
(C) The experiment on *Vibrio parahaemolyticus*
(D) The experiment on *Helicobacter pylori*
70. The word *undercooked* in line 41 is closest in meaning to
(A) fresh.
(B) rare.
(C) burnt.
(D) well done.

Questions 71 - 80

Ever wonder why some people breeze along on four hours of sleep when others can barely function? It may be in our genes, according to new research and an accompanying editorial published in the medical journal of the American Academy of Neurology. The study looked at people who have a gene variant that is closely associated with narcolepsy, a sleep *disorder* that causes excessive daytime sleepiness. However, having the gene variant, called DQB1*0602, does not mean that a person will develop narcolepsy; depending on the population, 12 to 38 percent of those with the variant do not have the sleep disorder and are considered healthy sleepers. Also, people without the gene variant can develop narcolepsy, though this is less common.

For the study, 92 healthy adults without the gene variant were compared to 37 healthy adults who had the gene variant but did not have any sleep disorders. All of the participants came to a sleep laboratory. For the first two nights, they spent 10 hours in bed and were fully rested. The next five nights they underwent chronic partial sleep deprivation, also known as sleep restriction, where they were allowed four hours in bed per night. During the remaining time, lights were kept on and participants could read, play games, or watch movies to help *them* stay awake. Researchers measured their sleep quality and self-rated sleepiness and tested their memory, attention and ability to resist sleep during the daytime.

The people with the DQB1*0602 gene variant were sleepier and more *fatigued* while both fully rested and sleep deprived. Their sleep was more fragmented. For example, those with the gene variant woke up on average almost four times during the fifth night of sleep deprivation, compared to those without the gene variant, who woke up on average twice. Those with the gene variant also had a lower sleep drive, or desire to sleep, during the fully rested nights. They spent less time in deep sleep than those without the variant, during both the fully rested and sleep deprivation nights. During the second fully rested night, those with the variant had an average of 34 minutes in stage three sleep, compared to 43 minutes for those without the variant. During the fifth night of sleep deprivation, those with the variant spent an average of 29 minutes in stage three sleep, compared to 35 minutes for those without the variant.

Nevertheless, the two groups performed the same on the tests of memory and attention. There was also no difference in their ability to resist sleep during the daytime. "This gene may be a biomarker for predicting how people will respond to sleep deprivation, which has significant health consequences and affects millions of people around the world. It may be particularly important to those who work on the night shift, travel frequently across multiple time zones, or just lose sleep due to their multiple work and family obligations. However, more research and replication of our findings are needed," said lead study author Namni Goel, PhD, of the University of Pennsylvania School of Medicine in Philadelphia.

71. The author's main purpose in writing this passage is to
- (A) describe the sleep process of people with narcolepsy and those without it.
 - (B) clarify the causes and effects of sleep deprivation on people with narcolepsy.
 - (C) argue that DQB1*0602 is a gene variant that causes people to be sleep deprived.
 - (D) inform that people may have different impacts of sleep deprivation due to their genes.

72. Which of the following best expresses the meaning of the word "disorder" in line 4?
- (A) Chaos
 - (B) Ailment
 - (C) Turmoil
 - (D) Confusion

73. According to the passage, which of the following statements about narcolepsy is TRUE?
- (A) People with narcolepsy often feel very drowsy during the day.
 - (B) Narcolepsy causes people to be in deep sleep for very long hours.
 - (C) People who have the gene variant will definitely develop narcolepsy.
 - (D) Many people develop narcolepsy although they do not have the gene variant.
74. According to the passage, the participants in the study
- (A) were diagnosed with narcolepsy.
 - (B) consisted of more than 100 people.
 - (C) were asked to stay awake for five nights.
 - (D) had to remain in bed throughout the study.
75. The word "them" in line 14 refers to
- (A) lights.
 - (B) games.
 - (C) movies.
 - (D) participants.
76. According to the passage, researchers in the study examined participants' abilities to do the following things EXCEPT
- (A) storing and recalling information.
 - (B) paying attention to things.
 - (C) refusing to sleep at night.
 - (D) concentrating their minds.
77. The word "fatigued" in line 17 means
- (A) weary.
 - (B) robust.
 - (C) scrawny.
 - (D) salubrious.
78. It can be inferred from paragraph 3 that people without the gene variant
- (A) generally sleep much better at night than during daytime.
 - (B) can fall asleep much faster than people with the gene variant.
 - (C) will probably be immune to sleep disorder and sleep deprivation.
 - (D) are less affected by sleep deprivation and adequate rest than those with it.
79. The author will probably use the following words to describe the study EXCEPT
- (A) riveting.
 - (B) informative.
 - (C) superfluous.
 - (D) advantageous.
80. It can be inferred that the study findings might be very important to these people EXCEPT
- (A) single parents with many children.
 - (B) police officers on night patrols.
 - (C) students facing exam weeks.
 - (D) international frequent fliers.

Questions 81 - 90

Line
(5) Exam anxiety is a fairly common phenomenon that involves feelings of tension or uneasiness that occur before, during, or after an exam. Many people experience feelings of anxiety around exams and find it helpful in some ways, as it can be motivating and create the pressure that is needed to stay focused on studying. However, in some cases, anxiety can become so *intense* that it leads to disruptive symptoms that ultimately lead to a negative impact on one's performance. In these cases, it is important for students to attend to their symptoms and find a way to cope effectively, so that their schooling does not suffer any further.

(10) As a first step, it is important to determine whether the anxiety is "true" test anxiety, or is due to a lack of adequate preparation. The student will need to ensure that he/she spends enough time studying, has adequate study strategies, attends class regularly, and understands the class material. If these issues have been addressed and he/she still continues to experience intense symptoms of anxiety, then it is likely that he/she is suffering from true (or classic) test anxiety, and will need to target his/her particular symptoms directly.

(15) Although anxiety can affect each person in different ways, there are several symptoms that are quite common. Some of these are emotional, which include feelings of fear, disappointment, anger, depression, or helplessness. Other symptoms are more behavioral, ranging from fidgeting or pacing to substance abuse or other self-destructive behaviors. There are also physiological symptoms, which include fast heartbeat, feelings of nausea, headaches, lightheadedness, sweating, and other disruptions in bodily functions. Finally, many people experience cognitive symptoms, such as negative thinking about oneself, racing thoughts, loss of memory, and "blanking" out.
(20) Some of the strategies for coping with exam anxiety are quite practical and relatively easy to implement, such as avoiding caffeine, arriving early to the exam, avoiding people who speak negatively, meeting with the professor to discuss class material, getting a good night's sleep, and reading exam directions carefully. Students will also need to ensure that they are practicing good time management skills and managing their stress on a daily basis through exercise, good nutrition, social support, enjoyable activities, and balance in their lives.
(25)

One of the most important components in dealing with exam anxiety is stopping a negative spiral from occurring, which can happen when one sign of anxiety (e.g., trembling hands, negative thoughts about one's performance) leads to a "chain of negative thoughts and images...each feeding on the one before and giving rise to another...". This can lead to an increase in one's anxiety level to the point where he/she can no longer perform at an acceptable level. There are many strategies that can be used to interrupt this cycle, such as breathing deeply; relaxing tense muscles; repeating positive, reassuring statements to oneself; taking a short break from the exam situation; and visualizing oneself doing well.
(30)

(35) Exam anxiety can be treated very effectively by continually practicing the above strategies. As some of these may be difficult to learn on one's own, counselling may be helpful as the therapist helps you to learn which strategies are most appropriate for you, as well as assisting you in learning how and when to implement them.

81. Which of the following is NOT the reason why test anxiety can sometimes be beneficial?

- (A) It somehow keeps you motivated.
- (B) It involves feelings of tensions.
- (C) It helps you to remain focused.
- (D) It provides pressure to sustain concentration.

82. The word *intense* in line 4 can best be replaced by

- (A) vehement.
- (B) vivid.
- (C) acute.
- (D) severe.

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83. According to the text, the most important initial step to identify the true nature of your anxiety is
- (A) examining the source of the anxiety.
 - (B) analysing one's own preparedness.
 - (C) investigating our own learning strategies.
 - (D) observing our reaction to anxiety.
84. All of the following are given in the passage as behavioural symptoms of test anxiety EXCEPT
- (A) using drugs.
 - (B) walking back and forth.
 - (C) moving restlessly.
 - (D) sweating profusely.
85. According to the text, consistent inability to remember is one symptom of test anxiety which is categorised as
- (A) behavioural.
 - (B) physiological.
 - (C) emotional.
 - (D) cognitive.
86. It can be inferred from the passage that
- (A) Test anxiety is a serious problem and drug prescription is needed.
 - (B) Consultation with a psychiatrist is a good way to overcome test anxiety.
 - (C) Ways of coping with test anxiety are actually simple and easy to practice.
 - (D) Test anxiety actually comes from peer pressure, leading to negative thoughts.
87. According to the passage, which of the following is NOT a measure to reduce stress?
- (A) Consuming healthy diet
 - (B) Doing physical exercise
 - (C) Hanging out with best friends
 - (D) Working long hours
88. All the following are given in the text as the author's advice to combat test anxiety EXCEPT
- (A) reacting directly to the first sign of anxiety.
 - (B) provoking the negative spiral to stay focused.
 - (C) doing muscle relaxation.
 - (D) imagining yourself passing the test.
89. The main idea of the last paragraph is
- (A) Once you know the strategies, practicing them is a simple matter.
 - (B) One may need the support of a professional to cope with test anxiety.
 - (C) Practicing the strategies is more important than consulting a therapist.
 - (D) A therapist might help, but you hold the key to your success in the test.
90. The passage would probably be part of an assigned reading in which of the following academic field?
- (A) Psychology
 - (B) Taxidermy
 - (C) Psychiatry
 - (D) Sociology

Questions 91 - 100

A new study by a Canadian Museum of Nature scientist helps answer a long-standing question in palaeontology — how numerous species of large, plant-eating dinosaurs could co-exist successfully over geological time. Dr. Jordan Mallon, a post-doctoral fellow at the museum, tackled the question by measuring and analyzing characteristics of nearly 100 dinosaur skulls recovered from the Dinosaur Park Formation in Alberta, Canada. Mallon's results indicate that these megaherbivores (all weighing greater than 1,000 kg) had differing skull characteristics that would have allowed them to specialize in eating different types of vegetation. The results support a concept known as niche partitioning, which dates to the 19th-century studies of Charles Darwin and came into its own in the 1950s with the development of the science of ecology.

- (10) The Dinosaur Park Formation is between 76.5 and 75 million years old and is known for its rich concentration of dinosaur remains. The rock unit has yielded nearly 20 species of megaherbivores from the Late Cretaceous period. Of these, six species would have coexisted at any one time, including two types of ankylosaurs (tank-like armoured dinosaurs), two types of hadrosaurs (duck-billed dinosaurs), and two types of ceratopsids (horn-faced dinosaurs). Modern megaherbivores (15) include elephants, giraffes, hippos and rhinos. Because today's megaherbivore communities are not nearly as diverse as those from the Late Cretaceous of Alberta, and most other fossil communities also pale by comparison, Mallon tried to find out how an environment supported so many of these large herbivores at once.

- Mallon tested two competing hypotheses. The first is that availability of food was not a limiting (20) factor in species survival. Plants may have been either super-abundant, so the megaherbivores did not have to compete for food, or the dinosaurs' metabolisms were relatively low, so the environment could support more species relative to a fauna comprised entirely of high-metabolic animals. The second hypothesis is that the available food resources were limiting and that niche partitioning came into play; in other words, there weren't that many plants to go around so that the species had to share (25) available food sources by specializing on different types of vegetation. If niche partitioning was in effect, there would be various dietary adaptations among the coexisting dinosaur species. Differences in the shapes of the skull, in the teeth, and in the beaks might reflect adaptations for feeding on diverse plants or plant parts.

- Until Mallon's study, neither of these hypotheses had been rigorously tested with such a large (30) sample size. For each of the nearly 100 dinosaur skulls he studied, Mallon measured 12 characteristics that are known to relate to diet in modern animals. These include depth of the jaw, angle of the beak, size of muscle insertions, and length of the tooth row. Not unexpectedly, differences were found between the three major groups (ankylosaurs, hadrosaurs and ceratopsids). More striking ones were the subtle yet significant differences within each of the three groups that (35) were probably related to feeding. Furthermore, although different species came and went, the same ecological roles were filled over the 1.5 million year span of the Dinosaur Park Formation. Mallon believes this shows that niche partitioning was a *viable* strategy for the coexistence of these animals and provides further evidence to explain why dinosaurs were one of the most successful groups of animals to live on this planet.

91. Which of the following would most likely be the main idea of the entire passage?
- (A) Megaherbivores roamed the earth millions of years ago and ate abundant plants.
 - (B) Different skull characteristics of megaherbivores indicate their diets and evolution.
 - (C) Mallon's study proved that large plant-eating dinosaurs did not coexist harmoniously.
 - (D) Mutually exclusive distribution of food resources allowed herbivorous dinosaurs to coexist.
92. It can be inferred from the passage that paleontology
- (A) only focuses on analyzing dinosaurs in various museums.
 - (B) can develop without contributions from the science of ecology.
 - (C) describes phenomena of prehistoric life and reconstruct their causes.
 - (D) became a well-known science due to Mallon's study on niche partitioning.

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93. Which of the following best expresses the meaning of the word "yielded" in line 11?
- (A) Remained
 - (B) Generated
 - (C) Surrendered
 - (D) Capitulated
94. According to the passage, the Dinosaur Park Formation
- (A) yielded dinosaur skulls that Marlon analyzed.
 - (B) is located in the border of the United States.
 - (C) also contained megacarnivore fossils.
 - (D) is less than 70 million years old.
95. According to the passage, the following animals are modern megaherbivores EXCEPT
- (A) elephants.
 - (B) hippopotamus.
 - (C) rhinoceros.
 - (D) buffalos.
96. According to the passage, why was Marlon interested in finding out how large plant eating dinosaurs could coexist?
- (A) Megaherbivores from the Late Cretaceous of Alberta were exceptionally diverse.
 - (B) That question had never been completely answered by his fellow paleontologists.
 - (C) It was easy for him to access and analyze skulls in the Dinosaur Formation Park.
 - (D) He wanted to be the first who tested the two competing hypotheses in paleontology.
97. Which of the following statements about niche partitioning can be inferred from the passage?
- (A) Charles Darwin created that term to explain the extinction of dinosaurs.
 - (B) All dinosaurs intentionally used niche partitioning as a survival strategy.
 - (C) If plants had been plentiful for megaherbivores, they would not have done it.
 - (D) Its concept can be used by ancient megaherbivores as well as the modern ones.
98. The word "these" in line 31 refers to
- (A) modern animals.
 - (B) 12 characteristics.
 - (C) the two hypotheses.
 - (D) nearly 100 dinosaur skulls.
99. The word "viable" in line 37 could be replaced by the following words EXCEPT
- (A) preposterous.
 - (B) achievable.
 - (C) feasible.
 - (D) likely.
100. The topic of the entire passage is most strongly expressed in
- (A) paragraph 1.
 - (B) paragraph 2.
 - (C) paragraph 3.
 - (D) paragraph 4.