

Epreuves d'admission

Cycle ingénieur

Epreuve d'ANGLAIS TEST 1

Durée de l'épreuve : 45 minutes

Avertissement

1. Vous disposez de 45 minutes pour réaliser cette épreuve.
2. Ne rien écrire sur le document du test ; utilisez la grille réponse jointe
3. A la fin de l'épreuve, vous devez :
 - ✎ vérifier que la grille réponse que vous remettez porte vos nom et prénom
 - ✎ remettre votre grille réponse et le sujet au surveillant

-----**RAPPEL**-----

Aucun autre document n'est autorisé

ESTIA ENGLISH TEST I – LEVEL B2

READING PASSAGE I « MAKING TIME FOR SCIENCE »

Chronobiology might sound a little futuristic – like something from a science fiction novel, perhaps – but it's actually a field of study that concerns one of the oldest processes life on this planet has ever known: short-term rhythms of time and their effect on flora and fauna.

This can take many forms. Marine life, for example, is influenced by tidal patterns. Animals tend to be active or inactive depending on the position of the sun or moon. Numerous creatures, humans included, are largely diurnal – that is, they like to come out during the hours of sunlight. Nocturnal animals, such as bats and possums, prefer to forage by night. A third group are known as crepuscular: they thrive in the lowlight of dawn and dusk and remain inactive at other hours.

When it comes to humans, chronobiologists are interested in what is known as the circadian rhythm. This is the complete cycle our bodies are naturally geared to undergo within the passage of a twenty-four hour day. Aside from sleeping at night and waking during the day, each cycle involves many other factors such as changes in blood pressure and body temperature. Not everyone has an identical circadian rhythm. 'Night people', for example, often describe how they find it very hard to operate during the morning, but become alert and focused by evening. This is a benign variation within circadian rhythms known as a chronotype.

Scientists have limited abilities to create durable modifications of chronobiological demands. Recent therapeutic developments for humans such as artificial light machines and melatonin administration can reset our circadian rhythms, for example, but our bodies can tell the difference and health suffers when we breach these natural rhythms for extended periods of time. Plants appear no more malleable in this respect; studies demonstrate that vegetables grown in season and ripened on the tree are far higher in essential nutrients than those grown in greenhouses and ripened by laser.

Knowledge of chronobiological patterns can have many pragmatic implications for our day-to-day lives. While contemporary living can sometimes appear to subjugate biology – after all, who needs circadian rhythms when we have caffeine pills, energy drinks, shift work and cities that never sleep? – keeping in synch with our body clock is important.

The average urban resident, for example, rouses at the eye-blearing time of 6.04 a.m., which researchers believe to be far too early. One study found that even rising at 7.00 a.m. has deleterious effects on health unless exercise is performed for 30 minutes afterward. The optimum moment has been whittled down to 7.22 a.m.; muscle aches,

headaches and moodiness were reported to be lowest by participants in the study who awoke then.

Once you're up and ready to go, what then? If you're trying to shed some extra pounds, dieticians are adamant: never skip breakfast. This disorients your circadian rhythm and puts your body in starvation mode. The recommended course of action is to follow an intense workout with a carbohydrate-rich breakfast; the other way round and weight loss results are not as pronounced.

Morning is also great for breaking out the vitamins. Supplement absorption by the body is not temporal-dependent, but naturopath Pam Stone notes that the extra boost at breakfast helps us get energised for the day ahead. For improved absorption, Stone suggests pairing supplements with a food in which they are soluble and steering clear of caffeinated beverages. Finally, Stone warns to take care with storage; high potency is best for absorption, and warmth and humidity are known to deplete the potency of a supplement.

After-dinner espressos are becoming more of a tradition – we have the Italians to thank for that – but to prepare for a good night's sleep we are better off putting the brakes on caffeine consumption as early as 3 p.m. With a seven hour half-life, a cup of coffee containing 90 mg of caffeine taken at this hour could still leave 45 mg of caffeine in your nervous system at ten o'clock that evening. It is essential that, by the time you are ready to sleep, your body is rid of all traces.

Evenings are important for winding down before sleep; however, dietician Geraldine Georgeou warns that an after-five carbohydrate-fast is more cultural myth than chronobiological demand. This will deprive your body of vital energy needs. Overloading your gut could lead to indigestion, though. Our digestive tracts do not shut down for the night entirely, but their work slows to a crawl as our bodies prepare for sleep. Consuming a modest snack should be entirely sufficient.

Do the following statements(1-7) agree with the information given in the Reading Passage above?

On your answer sheet, write

A if the statement **agrees** with the information (it's true)

B if the statement **contradicts** the information (It's false)

C if there is **no information** on this (it's not given)

1- Chronobiology is the study of how living things have evolved over time.

2- The rise and fall of sea levels affects how sea creatures behave.

- 3 -Most animals are active during the daytime.
- 4- Circadian rhythms identify how we do different things on different days.
- 5- A 'night person' can still have a healthy circadian rhythm.
- 6- New therapies can permanently change circadian rhythms without causing harm.
- 7- Naturally-produced vegetables have more nutritional value

Continue with multiple choice questions below :

8- What did researchers identify as the ideal time to wake up in the morning?

- A 6.04
- B 7.00
- C 7.22
- D 7.30

9- In order to lose weight, we should

- A avoid eating breakfast
- B eat a low carbohydrate breakfast
- C exercise before breakfast
- D exercise after breakfast

10- Which is NOT mentioned as a way to improve supplement absorption?

- A avoiding drinks containing caffeine while taking supplements
- B taking supplements at breakfast
- C taking supplements with foods that can dissolve them
- D storing supplements in a cool, dry environment

11- The best time to stop drinking coffee is

A mid-afternoon

B 10 p.m.

C only when feeling anxious

D after dinner

READING PASSAGE 2 « The ZX Spectrum »

In April 1982 a British company, headed by Sir Clive Sinclair, launched the ZX Spectrum computer on the market and sparked an IT revolution.

The tiny black computer with its rubber keys ignited the home computer age both in the UK and elsewhere, which led to a boom in computer manufacturing and developed software programmers whose talent is still evident today.

The ZX Spectrum was the brainchild of the entrepreneur Clive Sinclair, who had previously developed one of the first cheap and slim pocket calculators. The Spectrum was Sinclair's fourth computer, but was by far the most successful.

For many people, the ZX Spectrum was their first experience of using a computer and it soon gained a loyal following. In fact, it would not be a great exaggeration to credit Clive Sinclair and his ZX Spectrum with almost single-handedly creating the IT industry in the UK and providing the first learning tools for the programmers who shape today's video games and information technology.

Even today, there are programs being written for the Spectrum, though it has not been made for years. The computer was so successful that there are many nostalgic users all over the world, who look back on this machine with great affection.

12 - The ZX Spectrum had an ordinary keyboard.

A- True

B- False

13 - The computer had a great impact only in the UK.

A- True

B- False

14 - The impact of the computer is still noticeable today.

- A- True
- B- False

15 - Clive Sinclair had not worked in electronics before making the computer.

- A- True
- B- False

16 - He only made computers.

- A- True
- B- False

17 - A lot of people had not used a computer before they bought the ZX Spectrum.

- A- True
- B- False

18 - The IT industry in the UK owes a lot to Clive Sinclair.

- A- True
- B- False

19 - The computer was influential in the area of video games.

- A- True
- B- False

20- People are writing programs for it because the computer is still on the market.

- A- True
- B- False

21 - Many people have fond memories of this computer.

- A- True
- B- False

GRAMMAR SECTION – MULTIPLE CHOICE

22- The person who is taking the minutes will be seated _____ the chairman.

- A) from
- B) to
- C) next
- D) by

23- The employees _____ about the closure before the announcement was made public.

- A) know
- B) known
- C) knew
- D) have known

24- _____ it was a holiday, the doctor performed the emergency surgery on the heart patient.

- A) During
- B) Even
- C) Although
- D) So

25- Mr Griffin is well known for saying _____ comes to his mind.

- A) Anything
- B) Everything
- C) Whatever
- D) Anymore

26- All visitors must be _____ by a security officer while they are on-site.

- A) Detected
- B) Accompanied
- C) Revised
- D) Arrested

27-The factory shuts down every August for _____ .

- A) Maintenance
- B) Maintain
- C) Maintained
- D) Maintainer

28-During the seminar,Ms Williams taught _____ how to calculate the annual return on investment.

- A) They
- B) Their
- C) Them
- D) Themselves

29-Though he received the email early Monday morning, Mr Medina waited until Friday to _____

- A) Rely
- B) Delay
- C) Relay
- D) Reply

30-Please send the _____ documents instead of photocopies.

- A) Original
- B) Originate
- C) Origin
- D) Originality

31-The luncheon was held to honor the senior employees who will be retiring _____ June.

- A) At
- B) In
- C) Among
- D) On

32-Parking is limited to hotel guests ,and _____ will be towed.

- A) Violated
- B) Violate
- C) Violating
- D) Violators

33-If you are late for the meeting, please enter the meeting room _____

- A) Quieter
- B) Quietly
- C) Quietest
- D) Quiet

34-Many workers prefer being alone at the office because they can _____ more work done.

- A) Get
- B) Be
- C) Do
- D) Go

35-The store will be closed _____ Saturday and Sunday while we take inventory.

- A) Neither
- B) Both
- C) Either
- D) And

36-Everyone agreed that Mr. Osbourne's presentation _____

- A) Was a better
- B) Had better
- C) Has best
- D) Was the best

37-Ms. O'Hara is a good teacher because she has a lot of _____

- A) Patience
- B) Patient
- C) Is patient
- D) Has patience

38-In a recent poll, most people say the _____ of the personal computer has had the greatest impact on modern life.

- A) Inventive
- B) Invent
- C) Invention
- D) Inventor

39-Would you mind _____ the report by this afternoon instead of tomorrow ?

- A) Completing
- B) Finish
- C) Completed
- D) To finish

40-Can I _____ your phone number in case we need to contact you this evening ?

- A) Write off
- B) Notice
- C) Put off
- D) write down

41-The term 'cloud computing' _____ the practice of accessing information which has been stored online.

- A) Focus on
- B) Refers to
- C) Focusing on
- D) Referring to

42-The long-time employee was faithful and _____.

- A) Honestly
- B) Honest
- C) Honor
- D) Honesty

43-He was going to meet us _____ at the restaurant or here.

- A) But
- B) Yet
- C) Neither
- D) Either

44-Andrew lives quite a _____ from where he works.

- A) Closeness
- B) Space
- C) Distance
- D) Length

45-We are able to _____ your conditions of delivery.

- A) Accepts
- B) Accept
- C) Accepting
- D) accepted

EPREUVE D'ANGLAIS

NOM & Prénom : _____ Date : _____

Read the text and choose the answer

TEST 1

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ESTIA ENGLISH ENTRANCE TEST 2- LEVEL B2

« A neuroscientist reveals how to think differently »

In the last decade a revolution has occurred in the way that scientists think about the brain. We now know that the decisions humans make can be traced to the firing patterns of neurons in specific parts of the brain. These discoveries have led to the field known as neuroeconomics, which studies the brain's secrets to success in an economic environment that demands innovation and being able to do things differently from competitors. A brain that can do this is an iconoclastic one. Briefly, an iconoclast is a person who does something that others say can't be done.

This definition implies that iconoclasts are different from other people, but more precisely, it is their brains that are different in three distinct ways: perception, fear response, and social intelligence. Each of these three functions utilizes a different circuit in the brain. Naysayers might suggest that the brain is irrelevant, that thinking in an original, even revolutionary, way is more a matter of personality than brain function. But the field of neuroeconomics was born out of the realization that the physical workings of the brain place limitations on the way we make decisions. By understanding these constraints, we begin to understand why some people march to a different drumbeat.

The first thing to realize is that the brain suffers from limited resources. It has a fixed energy budget, about the same as a 40 watt light bulb, so it has evolved to work as efficiently as possible. This is where most people are impeded from being an iconoclast. For example, when confronted with information streaming from the eyes, the brain will interpret this information in the quickest way possible. Thus it will draw on both past experience and any other source of information, such as what other people say, to make sense of what it is seeing. This happens all the time. The brain takes shortcuts that work so well we are hardly ever aware of them. We think our perceptions of the world are real, but they are only biological and electrical rumblings. Perception is not simply a product of what your eyes or ears transmit to your brain. More than the physical reality of photons or sound waves, perception is a product of the brain.

Perception is central to iconoclasm. Iconoclasts see things differently to other people. Their brains do not fall into efficiency pitfalls as much as the average person's brain. Iconoclasts, either because they were born that way or through learning, have found ways to work around the perceptual shortcuts that plague most people. Perception is not something that is hardwired into the brain. It is a learned process, which is both a curse and an opportunity for change. The brain faces the fundamental problem of

interpreting physical stimuli from the senses. Everything the brain sees, hears, or touches has multiple interpretations. The one that is ultimately chosen is simply the brain's best theory. In technical terms, these conjectures have their basis in the statistical likelihood of one interpretation over another and are heavily influenced by past experience and, importantly for potential iconoclasts, what other people say.

The best way to see things differently to other people is to bombard the brain with things it has never encountered before. Novelty releases the perceptual process from the chains of past experience and forces the brain to make new judgments. Successful iconoclasts have an extraordinary willingness to be exposed to what is fresh and different. Observation of iconoclasts shows that they embrace novelty while most people avoid things that are different.

The problem with novelty, however, is that it tends to trigger the brain's fear system. Fear is a major impediment to thinking like an iconoclast and stops the average person in his tracks. There are many types of fear, but the two that inhibit iconoclastic thinking and people generally find difficult to deal with are fear of uncertainty and fear of public ridicule. These may seem like trivial phobias. But fear of public speaking, which everyone must do from time to time, afflicts one-third of the population. This makes it too common to be considered a mental disorder. It is simply a common variant of human nature, one which iconoclasts do not let inhibit their reactions.

Finally, to be successful iconoclasts, individuals must sell their ideas to other people. This is where social intelligence comes in. Social intelligence is the ability to understand and manage people in a business setting. In the last decade there has been an explosion of knowledge about the social brain and how the brain works when groups coordinate decision making. Neuroscience has revealed which brain circuits are responsible for functions like understanding what other people think, empathy, fairness, and social identity. These brain regions play key roles in whether people convince others of their ideas. Perception is important in social cognition too. The perception of someone's enthusiasm, or reputation, can make or break a deal. Understanding how perception becomes intertwined with social decision making shows why successful iconoclasts are so rare.

Iconoclasts create new opportunities in every area from artistic expression to technology to business. They supply creativity and innovation not easily accomplished by committees. Rules aren't important to them. Iconoclasts face alienation and failure, but can also be a major asset to any organization. It is crucial for success in any field to understand how the iconoclastic mind works.

Questions 1-5

Choose the correct letter, **A, B, C or D**.

- 1) Neuroeconomics is a field of study which seeks to
- A** cause a change in how scientists understand brain chemistry.
 - B** understand how good decisions are made in the brain.
 - C** understand how the brain is linked to achievement in competitive fields.
 - D** trace the specific firing patterns of neurons in different areas of the brain.
- 2) According to the writer, iconoclasts are distinctive because
- A** they create unusual brain circuits.
 - B** their brains function differently.
 - C** their personalities are distinctive.
 - D** they make decisions easily
- 3) According to the writer, the brain works efficiently because
- A** it uses the eyes quickly.
 - B** it interprets data logically.
 - C** it generates its own energy.
 - D** it relies on previous events.
- 4) The writer says that perception is
- A** a combination of photons and sound waves.
 - B** a reliable product of what your senses transmit.
 - C** a result of brain processes.
 - D** a process we are usually conscious of.

- 5) According to the writer, an iconoclastic thinker
- A centralises perceptual thinking in one part of the brain.
 - B avoids cognitive traps.
 - C has a brain that is hardwired for learning.
 - D has more opportunities than the average person

Questions 6-11 on your answer sheet, write

- A *the statement agrees with the writer(it's true)*
- B *if the statement contradicts the writer (it's false)*
- C *if it is impossible to say what the writer thinks about this*

- 6)- Exposure to different events forces the brain to think differently.
- 7)- Iconoclasts are unusually receptive to new experiences.
- 8)- Most people are too shy to try different things.
- 9)- If you think in an iconoclastic way, you can easily overcome fear.
- 10)- When concern about embarrassment matters less, other fears become irrelevant.
- 11)- Fear of public speaking is a psychological illness.

« The Digital Divide »

A recent survey has shown that the number of people in the United Kingdom who do not intend to get internet access has risen. These people, who are known as 'net refuseniks', make up 44% of UK households, or 11.2 million people in total.

The research also showed that more than 70 percent of these people said that they were not interested in getting connected to the internet. This number has risen from just over 50% in 2005, with most giving lack of computer skills as a reason for not getting internet access, though some also said it was because of the cost.

More and more people are getting broadband and high speed net is available almost everywhere in the UK, but there are still a significant number of people who refuse to take the first step.

The cost of getting online is going down and internet speeds are increasing, so many see the main challenge to be explaining the relevance of the internet to this group. This would encourage them to get connected before they are left too far behind. The gap between those who have access to and use the internet is the digital divide, and if the gap continues to widen, those without access will get left behind and miss out on many opportunities, especially in their careers.

Questions 12 – 21 : Write TRUE /FALSE on your answer sheet

12 - More people in the UK do not intend to get internet access than before.

True

False

13 - The majority of people in the UK are 'net refuseniks'.

True

False

14 - Most of those without internet access want to get it.

True

False

15 - The minority of the people surveyed in 2005 weren't interested in having internet access.

True

False

16 - The main reason for not getting internet access is the cost.

True

False

17 - High speed internet is not available everywhere in the UK.

True

False

18 - Both costs and speeds are increasing.

True

False

19 - Many people think that getting the costs down is the key to this problem.

True

False

20 - The digital divide is widening in the UK.

True

False

21 - Not having access to the internet will only affect people's careers.

True

False

GRAMMAR SECTION - MULTIPLE CHOICE

22- We _____ credit cards, cheques, or money orders for payment.

- a- Accept
- b- Exist
- c- Pay
- d- Are

23- Due to decreasing sales, major automobile manufacturers are _____ customer discounts.

- a- Asking
- b- Offering
- c- Showing
- d- Taking

24- Susan went _____ early on Friday because she was ill.

- a- Town
- b- Home
- c- House
- d- Place

25- We have arranged for an _____ flight on Tuesday.

- a- early
- b- angry
- c- ugly
- d- eager

26- Passengers are able to travel _____ and inexpensively by train

- a- frankly
- b- prefectly
- c- shortly
- d- comfortably

27- Please have the attached documents sent out _____ express mail service.

- a- Of
- b- At
- c- To
- d- By

28- Ms Roswell was transferred from Mexico City _____ Los Angeles in April.

- a- By
- b- To
- c- Through
- d- With

29- They _____ the brochures before we could make the changes.

- a- Printed
- b- Printing
- c- Printers
- d- Prints

30- Because the _____ was broken, the equipment had to be brought up the stairs.

- a- Elevation
- b- Elevator
- c- Elevate
- d- Elevated

31- _____ it was Mr Griffin's birthday, his staff took him to lunch.

- a- Although
- b- During
- c- Because
- d- That

32- Hotel employees are _____ to knock before entering the room.

- a- Requited
- b- Required
- c- Requisite
- d- Repulsed

33- The guard must _____ your identification at the gate

- a- Checked
- b- Checking
- c- Checks
- d- Check

34- Employees dislike tasks that are _____ .

- a- Repeat
- b- Repetitive
- c- Repetition
- d- Repetitively

35- At the end of the year, the company puts _____ a picnic for the employees.

- a- For
- b- By
- c- Up
- d- On

36- If we had started earlier, we _____ the deadline.

- a- Would meet
- b- Would have met
- c- Will meet
- d- Will have met

37- Mr Nolde called to cancel his _____

- a- Notebook
- b- Calendar
- c- Appointment
- d- Notice

38- If Ms kamano leaves at 2:00, she _____ at the station on time

- a- Would have arrived
- b- Will arrive
- c- Arrived
- d- Would arrive

39- The last train to Hamburg _____ at 10 :30.

- a- Depart
- b- Departs
- c- To depart
- d- Departing

40- Because his finger was broken, the secretary could not type _____ .

- a- Efficiently
- b- Intermittently
- c- Slowly
- d- Gradually

41- Th CD player was damaged when it _____ .

- a- Was delivered
- b- Has delivered
- c- Was delivering
- d- Had delivered

42- Mr Hatori was very _____ when he got a promotion.

- a- Excite
- b- Exciting
- c- Excited
- d- Excites

43- The restaurant is open on weekends _____ not on holidays.

- a- Either
- b- Or
- c- So
- d- But

44- You should check your messages _____ .

- a- As soon as
- b- Twice a day
- c- Seldom
- d- Rarely

45- The airline will refund the money _____ you cancel the reservation.

- a- During
- b- Soon
- c- When
- d- Until

EPREUVE D'ANGLAIS

NOM & Prénom : _____ Date : _____

Read the text and choose the answer

TEST 2

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