SỞ GD&ĐT QUẢNG BÌNH	**KỲ THI CHỌN ĐỘI TUYỂN DỰ THI CHỌN HỌC SINH GIỎI QUỐC GIA NĂM HỌC 2024-2025**
ĐỀ CHÍNH THỨC	**Khóa ngày 26 tháng 8 năm 2024**
	Môn thi: TIẾNG ANH
	BÀI THI THỨ HAI
SỐ BÁO DANH:……	Thời gian: 180 phút *(không kể thời gian giao đề)*
	Đề gồm có 15 trang

Lưu ý: Thí sinh làm bài trên tờ giấy thi

I. LISTENING (50/200 points)

HƯỚNG DẪN PHẦN THI NGHE HIỂU

- *Bài nghe gồm 4 phần; mỗi phần được nghe 2 lần, mỗi lần cách nhau 05 giây; mở đầu mỗi phần nghe có tín hiệu.*
- *Mọi hướng dẫn cho thí sinh đã có trong đề bài nghe.*

Part 1. ***For questions 1-5, listening to a part of a talk about a cybercrime, "deepfake", and decide whether these statements are True (T), False (F), or Not given (NG).***

1. A manipulated video using deepfake algorithm shows a person saying or doing unbelievable things.
2. For the time being, it is possible for the naked eyes to distinguish between a deepfake or an original video.
3. The most important function of Amber is to tackle fake videos.
4. Amber's authenticate is designed to make sure that the video is genuine the moment it is recorded.
5. A blockchain is said to be a transparent yet editable, bespoke database.

Your answers:

1.	2.	3.	4.	5.

Part 2. ***For questions 6-10, listen to part of*** **of a talk about light pollution and briefly answer the following questions.** ***Write NO MORE THAN FOUR WORDS taken from recording for each answer.***

6. What can our love of light upset to a greater extent than we might think?

_____

7. How do baby sea turtles escape from predators?

By _____

8. Which creature may witness an increase in population owing to light pollution?

_____

9. Which creature may die of hunger as a result of too much light?

_____

10. What will bright lights stop our bodies doing?

_____

Part 3. ***For questions 11-15, listen to two academics called John Farrendale and Lois Granger taking in a discussion on the subject of attitudes to work and choose the best answer (A, B, C or D) according to what you hear.***

11. Lois concurred with John's viewpoint that_____.
    A. most people tremble at the prospect of unemployment
    B. problem surface when unemployment coincides with the other harrowing events.
    C. some people are better eqquiped to tackle unemployment than others
    D. the psychological effects of unemployment can be overplayed
12. Lois agrees with the listener who insinuated that_____.
    A. not every can expect can expect a high level of job satisfaction
    B. people should make provisions for redundancy as they would for retirement
    C. voluntary work may be more gratifying than paid work
    D. work is only one facet of a contented life
13. What is John's outlook on people who deem work as a "means to an end"?
    A. He defers to the fact that they have chosen aviable alternative.
    B. He feels they may be missing out on something important.
    C. He is inclined to think it will instigate predicaments for them later.
    D. He suspects their level of allegiance to the job.
14. On being asked about so- called "slackers" at work, John points out that_____.
    A. people often jump to uncalled- for conclusions about them
    B. such a perpective has become progressively beyond the pale
    C. their stances are deplorable in a free labour market
    D. they accept the notion that work is a necessary evil
15. Lois quotes the psychologist Freud in such a way as to _____.
    A. dispute that an aspiration to work is understandable
    B. lend weight to John's concepts about increased social mobility
    C. provide a dissimilitude to the hypothesis of Bertrand Russell
    D. subtantiate how erudite postulations have shifted over time

Your answers:

11.	12.	13.	14.	15.

Part 4. For questions 16-25, listen to a man talking about India's bitcoin ban and complete the summary below using words taken from the recording. Write NO MORE THAN THREE WORDS in each blank.

Announcing that owning or trading virtual currencies and (16) _____will soon be illegal, the Indian government is trying to (17) _____ against cryptocurrencies.
Like India, other governments and central banks also want digital money to be (18) _____and to hold on to their (19) _____.

Cryptos have not been targeted with (20) _____until recently due to their (21) _____ and value making commercial use difficult.

India is seemingly trying to make a(n) (22) _____ before an easy-to-use and stable crypto can be developed.

In the movement against crypto, we will see numerous stories about how crypto is (23) _____ crime or (24) _____ about how they will destroy the economy on mass media.

The speaker believes that governments should stop (25) _____ their money to adapt to the crypto world.

Your answers:

16.	17.	18.	19.	20.
21.	22.	23.	24.	25.

II. LEXICO-GRAMMAR (25/200 points)

Part 1. ***For questions 26-45, choose the correct answer A, B, C, or D to each of the following questions.***

26. After a month of searching, the police are_____ their efforts to find the missing teenager.
A. throttling back C. freaking out
B. gulping down D. hewing out

27. Cybernauts are taking constant _____ at Minister of Education for the failure of the 1st national exam.
A. potshots B. recriminations C. stricture D. opprobriums

28. It was a tremendous _____ for the local paper to get an exclusive interview with Prince Charles.
A. coup B. snap C. clover D. savvy

29. Mike had gambled and won on many occasions, but one of these days he's _____ and lost everything.
A. rocked the boat C. come a cropper
B. jumped the gun D. dropped a clanger

30. His songs partake _____ poetic melodies of the 1940s.
A. with B. in C. into D. of

31. As a celebrity he was rather unusual in that he preferred to _____ the limelight in as much as was possible.
A. gorge B. renege C. milk D. shun

32. The economic downturn was a _____of the recession that was to come.
A. harbinger B. tracery C. perkiness D. denoucement

33. You can try reformatting your computer, but once you open that _____, you'll probably be working on it for days.
A. apple of discord C. load of cobblers
B. can of worms D. spot of bother

34. The police have uncovered a _____ of stolen goods which may help to trace the fugitives.
A. bounty B. cache C. wealth D. hoard

35. She is known for her _____observations and insightful comments.
A. recalcitrant B. malodorous C. perspicacious D. lachrymose

36. Unluckily, all of their hard work _____.

A. laid to waste C. gone to waste

B. wasted away D. wasted in their breath

37. We took the scenic route, a road which _____the coast for fifty miles.

A. hugged B. surrounded C. adjoined D. bordered

38. We _____ the horses _____ when they are about two years old.

A. set … against C. break … in

B. take … down D. do … over

39. During the meeting, John presented the idea I had been working on for weeks, stealing my _____ and taking all the credit.

A. storm B. lightening C. thunder D. season

40. News reporters around the world are on _____waiting to see if there stories will be on that evening's programme.

A. a razor edge B. A shoestring C. sufferance D. tenterhooks

41. John's poor workmanship was the _____ among his colleagues in the workplace.

A. talk of the town C. company town

B. toast of the town D. only game in town

42. Going to the unemployment office and having to wait for long hours there day after day is a _____ experience.

A. soul-destroying C. power-sharing

B. heart-stopping D. thought-provoking

43. This is the third time he's been caught- they are really going to throw the _____ at him this time.

A. book B. rod C. row D. pen

44. Mutations in the transmembrane domain of FGFR3 cause the most common genetic form of _____.

A. dwarfism B. metabolism C. meditation D. synchronisation

45. Individual differences in brain-wave activity may shed light on why some people are more prone to emotional stress disorders _____.

A. that others are C. others are

B. and than others are D. than are others

Your answers:

26.	27.	28.	29.	30.	31.	32.	33.	34.	35.
36.	37.	38.	39.	40.	41.	42.	43.	44.	45.

Part 2. ***For questions 46-50, write the correct form of each bracketed word in each sentence in the numbered space provided in the column on the right.***

Your answers

46. **(VEIN)** drug users are at particular risk of contracting the disease. 46._____

47. During the meeting, the manager kept **(LABOUR)** the same point over and over again, causing everyone to lose interest in the discussion. 47. _____

48. Now that Britain has become so **(ERADICATE)** multicultural, he says, there is no justification for it to be 'British' any more. 48. _____

49. Book clubs are a powerful tool for combating **(LITERATE)** the phenomenon of knowing how to read, but choosing not to. 49. _____

50. There are movie fans; there are film lovers; and then there are . **(CINEMA)** 50. _____

III. READING (70/200 points)

Part 1. ***For questions 51-60, read the following text and fill in the blank with ONE suitable word.***

The most crucial, as well as the most frequently (51) _____, point about 'folk music' is that the (52)_____ whom it most truly represents doesn't consider it to be 'folk music', but simply their music. 'Folk music' is, (53)_____, a term applied from outside the cultures and communities to which it refers. In terms of theory, 'folk' music – the traditional (54)____ of forms, styles and songs indigenous to a people, a culture or a (55)_____ – is radically distinguishable from 'art' music, of both the classical and avant-garde varieties, and from 'popular' music, mass-produced for and (56)_____ to a mass audience. In practice, it's getting harder and harder to tell them apart.

Before the advent of recording, these distinctions were not so much a critical device as a precise description of the class system: which is not surprising, (57)_____ these are essentially European definitions, and reflect prevailing European social structures. European classical music operates according to a strict (58)_____ structure, with the composer (the monarch, so to speak) at the top. The composer's wishes are interpreted and enforced by the conductor (the general) and carried out by the (59) _____ (the troops). During their lifetimes, the great composers often also functioned as the featured (60)_____**,** but after their deaths their music became fixed and formalized, those who succeeded them rarely inherited their licence to improvise.

Your answers:

51.	52.	53.	54.	55.
56.	57.	58.	59.	60.

Part 2. ***Read the following passage and do the tasks that follow.***

The reading passage has six paragraphs, A-F. For questions 61-66, choose the correct heading for each paragraph from the list of headings below. Write the correct number, i-viii, in boxes 61-66 on your answer sheet.

List of Headings

i. Al can improve the profitability of sporting businesses

ii. Responses to criticisms of Al in sports coaching

iii. A contrast between coaching today and in the past

iv. An academic outlines some of the advantages of Al in sport
v. The businesses responsible for creating Al software
vi. The use of Al to decide the results of a competition
vii. An academic study into a team sport in one country
viii. The uses of Al in coaching a range of different sports

61. Paragraph A .....
62. Paragraph B .....
63. Paragraph C .....
64. Paragraph D .....
65. Paragraph E .....
66. Paragraph F .....

Artificial Intelligence in Sport

A.

The first sports game was televised in the USA more than fifty years ago. Over the following decades television provided sports coaches with a wealth of information to analyse. By viewing recordings, they could study the number of passes received, tackles avoided, distances covered, speeds achieved and a host of other factors relating to the performance of their teams or athletes. Most of this data, though, consisted of bare statistics without any meaningful context. However, the use of artificial intelligence (Al) is now enabling an alternative approach to coaching. Al means the development of computer systems that can perform tasks usually associated with human intelligence, such as decision making. Increasingly, computers are being trained to understand the rules and objectives of sports so they can coach more directly. Al can analyse not only a player's actions, but also relate those actions to the wider context, including the directives of the coach and the actions of other players. Sports scientists believe that Al is revolutionising sports coaching by analysing patterns of behaviour in ways simply not possible before.

B.

There may be limitless ways in which Al technology can be developed, but certain practical applications are already apparent. Recently, a research experiment was conducted into the Spanish football league using an Al algorithm to analyse the passing strategies of 20 teams. The research revealed that two teams, Barcelona and Real Madrid, had more than 150 recurring passing patterns. However, the algorithm detected just 31 passing patterns used by Atlético Madrid. All of Atlético's other plays were one-offs that were never repeated, and the team won the league that season. One conclusion seems to be that teams with a less predictable style of play win more games. What's more, according to Dr Johann Muller, a sports scientist who has studied the Spanish research findings, the number of injuries a team suffers increases when they play in a style that prioritises offence.

C.

Since then, there has been a great deal of interest in the potential of Al. Professor of sports education Rebecca Graves believes that Al can provide coaches with invaluable insights. 'Tactics were once closely guarded secrets,' says Professor Graves, 'but now a coach with

access to Al can identify how a rival team is likely to play a match based on historic form. Once this was largely guesswork but now it can be achieved with some confidence.' The expense of Al technology means it will probably remain beyond the reach of all but elite teams, but among this group the implications are enormous. Professor Graves argues that Al allows preparations for a match to be tailored to individual players with much greater precision. She identifies fitness work, skills development, diet and numerous other factors that can be minutely customised, based on an individual's particular strengths and weaknesses.

D.

Part of the appeal of Al lies in its versatility. Ice hockey coaches in Finland are using Al to analyse the success of different plays. An Indian company has employed wearable technology developed in other fields to analyse stride patterns. This analysis has allowed its technicians to develop sneakers in various styles aimed at both long- and short-distance runners. Coaching practices in professional basketball, American football and tennis are also being transformed by Al. In addition, the technology has applications in highly technical sports such as car racing. Coaches involved in the National Association for Stock Car Auto Racing (NASCAR) believe that Al algorithms not only help drivers go faster but also enhance the safety of the sport because of their ability to monitor and predict potential problems.

E.

Al doesn't get tired, has extraordinary powers of vision, particularly for objects moving at speed, and is capable of making complex calculations very quickly. For all these reasons Al is increasingly being used in the high-pressure world of judging gymnastics performances. Research has shown that, particularly over a whole day's worth of events, computers are just as reliable as human judges when it comes to giving gymnasts a score. However, computer scientist Henri Simeonson has been quick to warn about some potential difficulties. In particular, Simeonson is concerned that Al is vulnerable to hackers, who might be able to influence the outcome of a tournament.

F.

It should not be forgotten, either, that many sports stars and sports teams are commercially dependent on their fans. If sufficient supporters do not buy tickets to games or pay to view a recording, the teams might struggle to survive. But now teams and stars are making increasing use of chatbots and other 'virtual assistants' to provide fans with statistics, news and background information about their favourite players. Another innovation is seen in Minor League Baseball in the USA, which is promoting the sport and seeking new fans with the use of Al-enhanced journalism. In this way baseball is keeping supporters informed with all the up-to-the-minute developments in ways not possible with more traditional approaches. Analysts believe these sorts of initiatives are crucial to increasing a player or team's revenue stream. It's just one more way that sports stand to benefit from Al technologies, on and off the field.

Questions 67 and 68

The list below gives some ways coaches could use Al. Choose TWO letters, A-E.

Which TWO of these are proposed by Professor Rebecca Graves?

A. speeding up analysis of data

B. personalising training programmes
C. improving mental toughness
D. reducing cost of sports coaching
E. identifying opponents' game plans

Questions 69-73

Complete the sentences below. Choose ONE WORD ONLY from the passage for each answer.

69. Analysis of Al data by Dr Johann Muller suggests that teams which play defensively have fewer _____.
70. An Indian company has designed new _____ using Al technology.
71. The use of Al in NASCAR is believed to improve _____ as well as driver performance.
72. Henri Simeonson says that _____ might be able to disrupt Al and make competitions unfair.
73. In Minor League Baseball, a type of _____ powered by Al is giving the sport greater publicity.

Your answers:

61.	62.	63.	64.
65.	66.	67/68.	69.
70.	71.	72.	73.

Part 3. ***In the passage below, seven paragraphs have been removed. For questions 74-80, read the passage and choose from the paragraphs A-H the one which fits each gap. There is ONE extra paragraph which you do not need to use.***

Hunter-Gatherer Blues

These days you can be sure that, whenever a scientist discovers a new wrinkle in the way the human mind works, some sort of Darwinian exploration will not be far behind. Research has shown that, while people find it easy to remember the direction of objects moving towards them or away from them, they have little recall for the spin direction of rotating objects. The reason for this is that natural selection has never had cause to equip us with such a memory mechanism.

74.	

Now don't get me wrong. I'm not ideologically opposed to such pat evolutionary answers, unlike many social scientists who regard culture as all-powerful in determining how we think and behave. I just wonder whether these Darwinian explanations help or hinder further scientific investigation. Indeed, as a practising psychiatrist, I find myself wondering this more and more as I watch evolutionary thinking being repeatedly used to explain the existence of mental illnesses and personality disorders.

75.	

Thus, paranoia could be helpful because suspiciousness might be beneficial in environments that are not as safe as they seem. Some forms of depression might exist because withdrawing from the social fray might actually be a good thing when you're competing with people who

could injure or kill you if you tried to assert yourself. And even severe postnatal depression could have hidden Darwinian benefits, according to some anthropologists.

76.	

Are such explanations useful or harmful? Paradoxically, I think they are both, for reasons that can be explained by looking at that other all-embracing approach to understanding behaviour, Freudianism. Freud, of course, proposed that sexuality was the driving force of human behaviour. This finds more than an echo in the evolutionary psychologists' view that we are trapped by sexual strategies to maximise the replication of genes. Fread had us in thrall to repressed sexual memories and psychic energies spilling out of the unconscious; evolutionary psychology has us in thrall to genes and innate neural mechanisms adapted to suit the needs of our hunter-gatherer ancestors.

77.	

Darwinian attempts to explain depression bear this out. Evolutionary psychology predicts, for example, that older mothers giving birth for the first time should be less prone to postnatal depression than younger first-time mothers, as their current infant could be their only chance to reproduce. In fact, older first-time mothers are even more prone to postnatal depression.

78.	

This suggests that you don't have to be depressed to realise that asserting yourself isn't worth it: although their depression had apparently after, the treated rats still didn't bother, presumably because they thought they would fail. Depressed people give up trying even when victory is clearly possible-that is precisely why depression is so puzzling.

79.	

Harmful, because, like theorising about the unconscious, evolutionary psychology might discourage scientists from looking for more productive explanations for mental illnesses. Useful, because we already know that many psychiatric patients can benefit greatly from being given a comprehensible account of their otherwise frightening and confusing symptoms. For this purpose, why shouldn't Darwin be at least as effective as Freud?

80.		

The beauty of evolutionary psychology for patients is that it could help them to stop endlessly asking why. For scientists, that is precisely its danger.

The paragraphs:

A. Despite these shortcomings, evolutionary psychology, like psychoanalysis, is undeniably attractive because of the apparent coherence and simplicity of the explanations it offers. And it's this appeal that I think is both potentially useful and potentially harmful.

B. There is a second echo: Freud produced ingenious explanations for behaviour, but backed away from generating testable predictions that could confirm or falsity his hypotheses. He famously argued that, when a patient vociferously rejected an analyst's interpretation, this was good evidence that it was right, and if the patient agreed with the doctor's exposition, this also was evidence it was right. Well, evolutionary psychology suffers from a related, albeit less extreme, form of the problem. It might seem to generate testable predictions, but on close inspection you usually find some sort of circularity in the argument, or that the predictions

either offer no more insights than common sense or are plainly wrong. The evolution of the human mind, alas, has left no fossils.

C. The aggressive personality would have been the ideal choice as protector of the primitive community and not marginalised as he or indeed she-is at present. Many "unacceptable" behaviours would have been of the utmost value in the evolution of the human psyche. Regardless of how we view acts of aggression today, the fact remains that they once played a vital role in our life-and-death struggle for survival.

D. Think about it. Since largely abandoning Freud, all therapists have had to offer patients seeking explanations is a hodge podge of one-off theories and speculations, some based on brain chemistry, some on behaviour, and each specific to just a single condition or even symptom. At a stroke, evolutionary psychology can provide patient and therapist with a unifying framework for thinking about all symptoms and all mental illnesses. A woman suffering from postnatal depression might feel hugely relieved to be told that her condition has an evolutionary explanation. Why should we deny her that relief?

E. Our ancestors would obviously have needed to know whether an animal they were hunting was approaching or retreating, but rotating objects would have been largely absent from the rough and tumble of their lives. Ergo, we don't remember enough about rotation from past experiences to be able to intuitively, say, pull a car out of a spin. We have to learn to do such things by role.

F. And if other forms of depression really are the result of a neural adaptation designed to make some of us keep our heads down when it would be dangerous to assert ourselves, you'd think antidepressants would reverse this. In fact, no evidence to this effect has been found among laboratory rats given antidepressants. If anything, the rats tried even less hard to pick fights with the dominant members of their group.

G. There is a suggestion that, since the mothers most likely to suffer are those in bad relationships or tough circumstances, postnatal depression is evolution's way of telling mothers not to waste valuable reproductive effort investing in offspring who are unlikely to thrive. In other words, it's no senseless accident that severely depressed mothers sometimes neglect or even kill their infants. They are doing it at the behest of genes whose silent command is "don't bother with this one."

H. If these conditions are so bad for us, goes the well-rehearsed logic of the Darwinian approach, why didn't natural selection weed out the genes that make us vulnerable? Answer: a tendency to depression or paranoia or whatever must have conferred some subtle survival benefit on our ancestors that kept the genes in the pool. Identify those benefits and, hey presto, you have a rationale for the condition.

Your answers:

74.	75.	76.	77.	78.	79.	80.

Part 4. ***For questions 81-90, read the following passage about the field of biomimicry and write A, B, C or D in the corresponding numbered boxes provided to indicate the correct answer which fits best according to what is stated or implied in the text.***

In 1948, Swiss chemist George de Mestral was impressed with the clinging power of burrs snagged in his dog's fur and on his pant legs after he returned from a hike. While examining the burrs under a microscope, he observed many hundreds of small fibers that grabbed like hooks. He experimented with replicas of the burrs and eventually invented Velcro•, a synthetic clinging fabric that was first marketed as "the zipperless *(JO)* zipper:' In the 1960s, NASA used de Mestral's invention on space suits, and now, of course, we see it everywhere.

You might say that de Mestral was the father of biomimicry, an increasingly essential field that studies nature, looking for efficiencies in materials and systems, and asks the question ***"How can our homes, our electronics, and our cities work better?"*** As one biomimetics company puts it: "Nature is the largest laboratory that ever existed and ever will."

Architecture is one field that is constantly exploring new ways to incorporate biomimicry. Architects have studied everything from beehives to beaver dams to learn how to best use materials, geometry, and physics in buildings. Termite mounds, for example, very efficiently regulate temperature, humidity, and airflow, so architects in Zimbabwe are working to apply what they've learned from termite mounds to human-made structures.

Says Michael Pawlyn, author of *Biomimicry in Architecture,* "If you look beyond the nice shapes in nature and understand the **principles** behind them, you can find some adaptations that can lead to new, innovative solutions that are radically more resource-efficient. It's the direction we need to take in the coming decades."

Designers in various professional fields are drawing on biomimicry; for example, in optics, scientists have examined the surface of insect eyes in hopes of reducing glare on handheld device screens. Engineers in the field of robotics worked to replicate the property found in a gecko's feet that allows adhesion to smooth surfaces.

Sometimes what scientists learn from nature isn't more advanced, but simpler. The abalone shrimp, for example, makes its shell out of calcium carbonate, the same material as soft chalk. It's not a rare or complex substance, but the unique arrangement of the material in the abalone's shell makes it extremely tough. The walls of the shell contain microscopic pieces of calcium carbonate stacked like bricks, which are bound together using proteins just as concrete mortar is used. The result is a shell three thousand times harder than chalk and as tough as Kevlar® (the material used in bullet-proof vests).

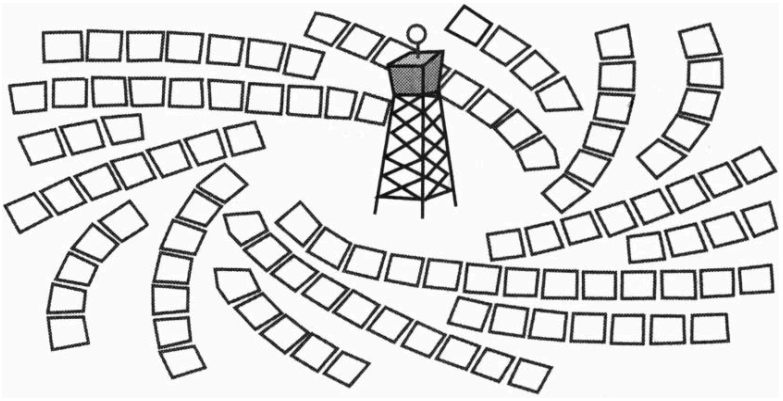
Often it is necessary to look at the nanoscale structures of a living material's exceptional properties in order to re-create it synthetically. Andrew Parker, an evolutionary biologist, looked at the skin of the thorny devil (a type of lizard) under a scanning electron microscope, in search of the features that let the animal channel water from its back to its mouth.

Examples like this from the animal world abound. Scientists have learned that colorful birds don't always have pigment in their wings but are sometimes completely brown; it's the layers of keratin in their wings that produce color. Different colors, which have varying wavelengths, reflect differently through keratin. The discovery of this phenomenon can be put to use in creating paints and cosmetics that won't fade or chip. At the same time, paint for outdoor surfaces can be made tougher by copying the structures found in antler bone. Hearing

aids are being designed to capture sound as well as the ears of the Ormia fly do. And ***why can't we have a self-healing material like our own skin?*** Researchers at the Beckman Institute at the University of Illinois are creating just that; they call it an 'autonomic materials system.' A raptor's feathers, a whale's fluke, a mosquito's proboscis-all have functional features we can learn from.

The driving force behind these innovations, aside from improved performance, is often improved energy efficiency. In a world where nonrenewable energy resources are dwindling and carbon emissions threaten the planet's health, efficiency has never been more important. Pawlyn agrees: "For me, biomimicry is one of the best sources of innovation to get to a world of zero waste because those are the rules under which biological life has had to exist."

Biomimicry is a **radical** field and one whose practitioners need to be radically optimistic, as Pawlyn is when he says, "We could use natural products such as cellulose, or even harvest carbon from the atmosphere to create bio-rock."



Tiny florets in a sunflower's center are arranged in an interlocking spiral, which inspired engineers in the design of this solar power plant. Mirrors positioned at the same angle as the florets bounce light toward the power plant's central tower.

81. The central focus of the passage is _____.
A. the field of biomimicry, which is the study of materials and systems found in nature and replicated in ways that benefit people.
B. the work of George de Mestral, the Swiss chemist who invented Velcro after observing burrs under a microscope.
C. the ways in which architects use termite mounds as models for human-made structures in Zimbabwe.
D. how scientists are seeking ways to improve energy efficiency as nonrenewable energy sources decline.
82. Which choice provides the best evidence for the answer to the question: ***"How can our homes, our electronics, and our cities work better?"***?
A. Paragraph 1- lines 1-4 ("In 1948, Swiss chemist, George de Mestral . . . . hooks.")
B. Paragraph 2- lines 7-10 ("You might say . . . ever will")
C. Paragraph 3- lines 13-15 ("Termite mounds . . .structures")
D. Paragraph 4- lines 45-47 ("The driving . . . more important")
83. The author includes a quote in paragraph 4 in order to _____.
A. explain why architects are looking to biomimicry for solutions in architecture.
B. provide an argument for more scientists to study biomimicry.
C. give an explanation as to why someone might choose a career in architecture.

D. provide a counterargument to the author's central claim.
84. Based on the information in paragraph 6, how does the shell of an abalone shrimp compare with soft chalk?
A. The essential building blocks are arranged in a similar manner, but the material that makes up the shell of an abalone shrimp is harder.
B. Both are made from the same essential building blocks, but the shell of the abalone shrimp is much harder because of the manner in which the materials are arranged.
C. The essential building blocks of both are the same, but the abalone shrimp shell is harder because the soft chalk lacks a protein binding the materials together.
D. They are made from different essential building blocks, but they have a similar hardness because the materials are arranged in a similar manner.
85. In paragraph 9, what is the function of the quote from Pawlyn about efficiency?
A. To convince readers that Pawlyn is an expert in his field
B. To prove that great strides are being made in creating products that do not generate waste
C. To demonstrate the limits of what biomimicry can achieve
D. To support the statement that energy efficiency "has never been more important"
86. In paragraph 4, **"principles"** most nearly means _____.
A. sources B. attitudes C. standards D. concepts
87. Of the following, the most reasonable inference from the passage is that _____.
A. more scientists will utilize solutions developed through biomimicry in the future.
B. the field of biomimicry will eventually decline as more nonrenewable resources are discovered.
C. scientists will leave the fields they are currently working in and begin research in biomimicry.
D. doctors will create a self-healing skin called an "autonomic materials system" using methods based in biomimicry.
88. Which choice provides the best evidence for the answer to the question: ***"why can't we have a self-healing material like our own skin?"****?*
A. Paragraph 5- lines 20- 22 ("Designers . . . screens")
B. Paragraph 7- lines 31- 32 ("Often it is . . . synthetically")
C. Paragraph 8- lines 35- 37 ("Examples like . . . color")
D. Paragraph 10- lines 50- 52 ("Biomimicry . . . bio-rock")
89. As used in paragraph 10, **"radical"** most nearly means
A. pervasive. B. drastic. C. essential. D. revolutionary.
90. The graphic and caption that accompany this passage help illustrate how biomimicry can be used to _____.
A. make a solar plant more attractive
B. increase waste generated by energy sources
C. improve the efficiency of existing technologies
D. replicate a pattern common in nature

Your answers:

81.	82.	83.	84.	85.
86.	87.	88.	89.	90.

Part 5. ***The passage below is an article where four professionals share their business-related experience. For questions 91-100, read the passage and do the task that follows. Write the letter A, B, C, or D in the corresponding numbered boxes provided.***

When things don’t go right in business

Some personal experiences

A. ***Michaela James: Food industry***

I emerged from business school raring to go. My area of expertise was supplying the catering industry with ingredients for use in fast-food outlets. I'd thought of a new idea for how to organise the distribution network and thought I could make a go of it. I immediately set up a company, despite my canny parents urging restraint and patience. I sunk all my savings into the company, took out loans, ran up an overdraft but was still underfunded. So I explained my idea to an expert, a venture capitalist, and asked him if he could help me attract backers. Little did I know that he'd go straight to one of the big players in the industry and sell my idea to them behind my back. In my naivety, and desire to set the ball rolling, I'd omitted to get him to sign a confidentiality agreement - an omission which I paid dearly for in subsequent months, and years. My idea was certainly a money-spinner but sadly not for me. I lost out there but chalked it up to experience. Before long, I'd been taken on by a rival company and found my niche. Luckily, my injured pride soon recovered!

B. ***Sam Liddle: Lifestyle management business***

Our particular problem was not lack of expansion but rather over-expansion, in the sense that it all happened too fast without our having done the necessary groundwork. In our business, we commit to respond to our clients' requests - whether it's for concert tickets, a hotel booking, a golfing holiday- within a very short timescale. However, when the number of requests suddenly burgeoned into over 10,000 a month, we recruited staff in the heat of the moment, simply to clear the backlog. I guess we thought that level of business would be sustained, but it turned out to be no more than a blip. After that, we faced the prospect of radical cost-cutting. reduction in staffing levels and motivational talks for our reduced workforce. It paid off in the end but I was certainly out of my comfort zone for a while. I thought I'd messed up totally - and that's putting it mildly!

C. ***Liz Andrews: Online translation company***

Our business successfully provides translation services for business or individuals. Some years ago, a multi- millionaire with more money than sense, persuaded us to take on a major project for him. He wanted us to translate his 'philosophy of life' into fifty-seven languages so that he could then create a dedicated website for this purpose. He also requested that we help him with the content. Since his financial input was going to be considerable and he seemed trustworthy, we felt we could hardly refuse, although our gut feeling told us otherwise. Although we recruited additional staff specifically for the project, it still detracted from our core values and the focus on improving our services for the general public. Eventually, we simply couldn't produce the material fast enough and the situation became untenable, so we agreed to call it a day. As a company, the upside is that we got and retained two excellent managers, but the fact remains that the whole situation dragged on for an inexcusable length of time before we faced up to it.

D. ***Josh Black: Email security business***

A year after our business was established, I insisted on sending a small team over to the USA to start up an office there, assuming that a small-scale operation would be a good way of assessing the market potential for our product. Due to lack of funds and inadequate on-site backup however, the operation floundered. We were getting nowhere fast. Marketing a product in the USA is a different kettle of fish from the UK: the expectations are greater and the market is so huge in comparison. Really, a fully-functioning base was needed out there, so I suggested we set it up in New York as a fairly self-contained enterprise. That was the only way I could see it would work. So we duly went over there and headhunted some key people from a competitor - so far so good. That was the point at which, however, it came to light that our charges to users were quite a bit above the going market rate - and our hands were tied; we'd committed to the new setup. In the end, it all worked out for us and the USA became our biggest market with five million users by the time we sold the company.

Which businessperson mentions	**Your answers**	
initial success being the source of later problems?	91.	
not paying attention to wise advice?	92.	
underestimating the effect of cultural differences?	93.	
being unable to raise sufficient levels of investment?	94.	
not responding to an instinctive feeling about a proposal?	95.	
failing to realise that integrity could not be assumed?	96.	
overreacting to an unrepresentative trend in sales?	97.	
not tackling fundamental problems soon enough?	98.	
approaching the staff of rival companies as a form of recruitment?	99.	
suffering a feeling of personal inadequacy at one stage?	100.	

IV. WRITING (55/200 points)

Part 1. *Graph writing* (20 points)

The table below gives information about salaries (in USD) of secondary/high school teachers in five countries. Summarize the information by selecting and reporting the main features, and make comparisons where relevant. You should write at least 150 words.

Countries	Starting	After 15 years	Maximum	Years to reach maximum salary
Australia	28,000	48,000	48,000	9
Denmark	45,000	54,000	54,000	8
Luxembourg	80,000	119,000	132,000	30
Japan	34,000	65,000	86,000	37
Korea	30,000	48,000	62,000	34

Part 2. ***Essay writing*** **(35 points)**

Write an essay of 350 words on the following topic.

Artificial Intelligence holds great promise to help humans shape their future. However, some futurists believe that it also poses great danger to humans.

Discuss both views and give your own opinion.

-----THE END-----