BỘ GIÁO DỤC VÀ ĐÀO TẠO KỲ THI ĐÁNH GIÁ TƯ DUY NĂM 2022 TRƯỜNG ĐẠI HỌC BÁCH KHOA HÀ NỘI

ĐỀ THI MÔN TIẾNG ANH		Thời gian làm bài: 60 phút, không kể thời gian phát đề.			
		T	Calmba		
1					
	Ma de thi 302		a makastranosani		
	miran many year to granting to be an				
	, B, C, or D on your answer sheet to in				
Question 1:	The university offers a lot of free s	services, but	not many students	advantage of	
	them.		ol R. In		
A.			make	D. get	
Question 2:		ny shoulders	when I could fina	lly tell my parents about	
	my problems.		1 amon overducing	D.A.Loro	
	• 1	. (C)	load	D. loss	
	I'm sorry I didn't tell you that the n			nave	
A.	been out of my mind slipped my mind		crossed my mind	ian ak	
Question 4:	The state of the s	D.	brought to my mi	elii : Timeitanu Q	
	, you wouldn't have ma Were you to listen to me	B.	If you listened to	me	
A.	Unless you listened to me		Had you listened		
	He said, "I visited both Yugoslavia				
Question 5:	→ He	and muone	sia as a boy with h	ry grandrather.	
amender A.	9	a and Indone	esia as a boy with h	nis grandfather.	
	recalled visiting both Yugoslavia a				
C.	remembered that he visit both Yug				
	reminded himself to visit both Yug				
	One of the boys, but I _		and him		
(A)	was drowning - dived - saved			ve	
C	had drowned - dived - saved		drowned - dived		
Question 7:	The plane has built-in ste				
22333	four hours.				
(A)	a - Ø B. the - the	C.	a - the	D. a - a	
Question 8:	The hairy coat holds a layer of air	close to the	e skin,tl	ne body against changes	
a lisophyshuu s	in the outside temperature.			South to the sale and the	
A.	insulating B. insulated	C.	to be insulated	(D.) that insulates	
Question 9:	The couple seems to be very hap	py about th	e house. The real	estate agent	
0.722	great recommendations for them.				
Α.	could have made	B.	must have made		
C.	may have made	D.	should have mad	e	
Question 10:	The prices of this company are alw	ays better th	nan those of their_	MARKET PROPERTY.	
A.	competitions B. competitive	(C.)	competitors	D. competitively	
Arms		4			

Question 11:	He could neither explain the	whole situation t	o the editor,	Service Complete Service
	nor could he accept his rebu			
В.				
C.	so could he accept his rebul			
	either couldn't he accept his			
Question 12:	It's raining outside. You'd l	etter put a coat	your dress.	
A.	off B. with	and he (C.)	over	D. on
Question 13:	An important event in my	life was the beg	inning of my relatio	nship with Jonathan
	I owed to our com			
A.	who B. whom	C.	which	D. that
Question 14:	My sister received a wonder	ful from	n her friend for spagh	etti carbonara.
A.	receipt B. letter	C.	paper	D. recipe
Question 15:	I to the station to	pick her up becau	ise she decided to get	the bus, so I finished
	my essay instead.			
	needn't have gone		shouldn't go	
	didn't need to go	D.	shouldn't have gone	
Question 16:	Most gas appliances require			
	maintaining B. maintai		maintained	
Question 17:	His acceptance	at the Oscar Cere	mony has caused he	ated controversy on
	Facebook.			7 A
			talk	D. speech
Question 18:	Many organizations operate		period before	e making a position
	permanent for their employe		oli e	
Α.	probationer B. probate	The sive C.	probation	D. probatant
Mark the letter	A, B, C, or D on your answer	sheet to indicate	the word(s) CLOSES	T in meaning to the
	in the following question.			
Question 19:	While we were on our holida	y in Manchester la	ast winter, we manage	d to visit some good
	friends there.			
A.	run into B. drop in	on C.	keep up with	D. get on with
Mark the letter	A, B, C, or D on your answe	r sheet to indicate	the word OPPOSITI	E in meaning to the
	in the following question.			(Succion V.)
Question 20:	The vaccines have been prov	ed to have no adv	erse effects.	
	dramatic B. significa		additional	D. beneficial
fork the letter	1, B, C, or D on your answe	en chast to indica	to the word that has	the underlined new
	rently from the others.	er sneet to inuicul	te the word that has	ine unueriinea pari
Question 21:	chary from the others.			
A.	sold B. pole	Age Address of the	tomb	D. comb
Question 22 :	sold B. pole		t <u>o</u> mb	D. Comb
-	honest B. honour	C	hours	D host
Α.	honest B. honour	C.	hour	D. host

from the others. Question 23: A. problematic B. individual fundamental meticulous Mark the letter A, B, C, or D on your answer sheet to indicate the sentence(s) that best complete(s) each of the following exchanges. Question 24: Jack and Peter are in a room. Jack is feeling a bit cold. - Jack: Would you mind turning off the air conditioner, please? - Peter: A. No, thanks. Good idea! Yes, of course. Not at all. B. D. **Question 25:** Jasmine is at a restaurant. - Jasmine: Excuse me. I've made a table reservation for 4 people. A. You can book via our website. I am looking forward to seeing you. B. C. Sorry, what's the matter with you? Just a moment. I'll check it for you. D. Ouestion 26: Roger is talking to Claire about her birthday party. - Roger: I am sorry I can't make it to your party tomorrow. - Claire: Why on earth did you do that to me? A. No worry. I had other plans anyway. B. It's all good. Maybe next time. You shouldn't have done that. Ouestion 27: Andrew wants to borrow Lam's CD. - Andrew: May I borrow this CD? - Lam: B. I can't give what you want. A. By all means. D. I don't think I can make it. C. Never mind. Question 28: John and Thao have just finished a school tour. - John: Thank you so much for showing me the way around the school. - Thao:

Mark the letter A, B, C, or D on your answer sheet to indicate the word whose primary stress is different

Read the following passage and mark the letter A, B, C, or D on your answer sheet to indicate the best answer to each of the following questions from 29 to 35.

You're welcome.

A. Same to you.

B.

C. I know.

Selfies are a cultural phenomenon. Twenty years ago, very few museum visitors would think about taking a photo of themselves in front of the Mona Lisa with a digital camera. Now, to even see the Mona Lisa you have to gaze over a sea of phone screens and smiling faces. But is this really that big a change? What selfies have changed, perhaps, is the way people view the experience of visiting a museum. The question is whether this is a good or bad cultural change.

The first and perhaps most common accusation levelled at selfie-takers is that it is an exercise in self-promotion. People who take selfies of themselves at museums are seen as being selfish. Taking a photo of yourself in front of a painting implies that viewing and enjoying the artwork isn't enough, and that it is only by photographing yourself with the artwork that visiting the museum becomes a valuable

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experience. In addition, many people feel that being surrounded by selfie-takers ruins the museum's atmosphere. For serious art and history enthusiasts, a trip to museums today is no longer an educational escape from the reality, but a runaway from the constant rush of selfie-takers. What's more, selfies increase the likelihood of damage being done to the exhibits. When people are preoccupied with taking the best picture rather than with the artwork next to them, mishaps are bound to happen. Take the **notorious** 14th Factory incident, in which a girl crouching next to an exhibit in Los Angeles accidentally knocked a pedestal over, causing an estimated \$200,000 worth of damage. Such a disaster would never have happened if the girl had not been using the exhibit as a backdrop for a selfie.

The museum selfie is not without its supporters, however. To some, it is a way to enrich the entire museum experience. If selfies are indeed a cultural phenomenon, isn't it a museum's duty to engage with them in the same way they engage with other aspects of culture? It just allows people to engage with art and history on a personal level. Allowing selfies is also healthy for business. For many, the attraction of a good selfie backdrop is what draws them to these educational places. This increases donations to the museum, allowing a venue to showcase more exhibits and better preserve the exhibits already in their possession.

Whatever your thoughts on social media and the popularity of selfie-taking are, it is unlikely that this trend is going to disappear in the near future. And so, perhaps the question should be how we can ensure that all are free to enjoy their favourite exhibits in a way that does not compromise the experiences of others.

(Adapted from museumnext.com)

Question 29: Why does the author mention the Mona Lisa in paragraph 1?

- A. To give an example of a popular artwork that attracts people to museums
- B. To show that people's museum experience is becoming better thanks to technology
- C. To illustrate how selfie-taking is changing the way people interact with arts
 - D. To explain why very few museum visitors took photos in museums 20 years ago

Question 30: What is NOT an accusation against selfie-takers at museums?

- A. They just care about themselves.
- **B.** They ruin the value of art and history.
- C. They spoil other visitors' experience.
- D. They cause damage to the objects on display.

Question 31: The incident at 14th Factory in Los Angeles shows that_____

- A. disasters will happen if people are not allowed to take selfies.
- B. exhibits of great values are not looked after properly at museums.
- C. the main purpose of people's going to museums is to take selfies.
- D. accidents are likely because of people's obsession with selfies.

Question 32: The word "notorious" in paragraph 2 can best be replaced by_____.

A. infamous B. widespread C. common D. familiar

Question 33: Which of the following would be the best heading for paragraph 3?

- A. Reasons why people take selfies at museums
- B. The arguments for selfies at museums
- C. The social values of selfies
- D. What museums can do to prevent selfies

Question 34: According to the passage, how does allowing selfies benefit museums?

- A. It adds to museums' historical values.
- B. It makes museums a cultural phenomenon.
- C. It allows museums to be financially viable.
- **D.** It enables museums to attract people from other cultures.

Question 35: Which suggestion below does the author most likely support?

- A Museums should adapt to the trend of selfie-taking.
- B. Selfies should be allowed at certain museums.
- C. Museum visitors should be permitted to take selfies freely.
- D. Taking selfies should be banned at every museum.

Read the following passage and mark the letter A, B, C, or D on your answer sheet to indicate the best answer to each of the following questions from 36 to 42.

Artificial intelligence (AI) is already making decisions in the fields of business, health care and manufacturing. But AI algorithms generally still need people to apply **checks** and make the final call. What would happen if AI systems had to make independent decisions, and ones that could mean life or death for humans?

Pop culture has long portrayed our general distrust of AI. In the 2004 sci-fi movie *I, Robot*, detective Del Spooner (played by Will Smith) is suspicious of robots after being rescued by one from a car crash, while a 12-year-old girl was left to drown. Unlike humans, robots lack a moral conscience and follow the "ethics" programmed into them. At the same time, human morality is highly variable. For machines to help us to their full potential, we need to make sure they behave ethically. The "right" thing to do in any situation will depend on who you ask. So, the question becomes: how do the ethics of AI developers and engineers influence the decisions made by AI?

Imagine a future with self-driving cars that are fully autonomous. If everything works as intended, the morning commute will be an opportunity to prepare for the day's meetings, catch up on news, or sit back and relax. But what if things go wrong? The car approaches a traffic light, but suddenly the brakes fail, and the computer has to make a split-second decision. It can swerve into a nearby pole and kill the passenger, or keep going and kill the pedestrian ahead. The computer controlling the car will only have access to limited information collected through car sensors, and will have to make a decision based on this. As dramatic as this may seem, we're only a few years away from potentially facing such dilemmas.

Autonomous cars will generally provide safer driving, but accidents will be inevitable. Tesla does not yet produce fully autonomous cars, although it plans to. In accident situations, Tesla cars don't automatically operate or deactivate the Automatic Emergency Braking (AEB) system if a human driver is in control. Instead, if the car detects a potential collision, it sends alerts to the driver to take action. In fully "autopilot" mode, however, the car should automatically brake for pedestrians. Some argue if the car can prevent a collision, then there is a moral obligation for it to override the driver's actions in every scenario.

When it comes to AI systems, the algorithms training processes are critical to how they will work in the real world. A system developed in one country can be influenced by the views, politics, ethics and morals of that country, making it unsuitable for use in another place and time. After all, AI is not "good" or "evil". To make the most of it, we'll need to reach a consensus on what we consider "ethical".

(Adapted from theconversation.com)

Question 36: The word "checks" in paragraph 1 is closest in meaning to_ D. clear vision A. quick glance B. curious stare C. close look Question 37: What point does the author make by mentioning the movie I, Robot in paragraph 2? This is a classic sci-fi movie about the intelligence of robots. **B.**) Humans have long doubted robots' ability to make moral decisions. C. Robots will be suspicious of humans once they are fully autonomous. D. Countless human lives will be saved by robots in the future. What can be inferred about robots' ability to behave ethically? Question 38: They can make ethical decisions in any situations. (B.) They are unlikely to know what is right to do in a situation unknown to them. C. They can copy ethical behaviours from AI developers and engineers. They are unable to follow the ethical instructions programmed into them. Question 39: Which heading below best fits paragraph 3? A. A hypothetical traffic situation posing difficult ethical choices B. A series of ethical decisions self-driving cars will have to make C. A relaxing car journey made possible by self-driving cars D. An unreal tragic accident caused by self-driving cars What does the word "this" in paragraph 3 refer to? Question 40: (A.) limited information the self-driving car the computer D. access to computer Ouestion 41: Which statement is true about Tesla's cars? They are able to give the driver early warnings in an emergency. B. They can reject human drivers' decisions in a potential collision. They are the only fully autonomous cars on the market currently. D. They can activate the AEB system even with a human driver on board. Question 42: According to the last paragraph, what is the author's view on ethics in the real world? A.) Ethics vary from one place to another and change over time.

B. There is a universal agreement on what people consider "ethical".

C. Ethics will not work on AI systems because of different political views.

D. There is a clear-cut distinction between "good" and "evil".

Read the following passage and mark the letter A, B, C, or D on your answer sheet to indicate the best answer to each of the following questions from 43 to 50.

The researchers, from the University of Cambridge, have previously shown that biological catalysts, or enzymes, can produce fuels cleanly using renewable energy sources, but at low efficiency. Their latest research has improved fuel production efficiency by 18 times in a laboratory setting, demonstrating that polluting carbon emissions can be turned into green fuels efficiently without any wasted energy. The results are reported in two related papers in Nature Chemistry and Proceedings of the National Academy of Sciences.

Most methods for converting CO₂ into fuels also produce unwanted by-products such as hydrogen. Scientists can alter chemical conditions to minimise hydrogen production, but this also reduces the

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performance for CO₂ conversion: so cleaner fuels can be produced, but at the cost of efficiency. The Cambridge-developed proof of concept relies on enzymes isolated from bacteria to power the chemical reactions which convert CO₂ into fuels, a process called electrolysis. Enzymes are more efficient than other catalysts, such as gold, but <u>they</u> are highly sensitive to their local chemical environment. If the local environment isn't exactly right, they fall apart and the chemical reactions are slow. [1]. The Cambridge researchers have developed a method to improve the efficiency of electrolysis by fine-tuning the solution conditions to alter the local environment of the enzymes.

"Enzymes have evolved over millions of years to be extremely efficient and selective, and they're great for fuel-production because there aren't any unwanted by-products," said Dr. Esther Edwardes Moore from Cambridge's Yusuf Hamied Department of Chemistry, first author of the PNAS paper. "However, enzyme sensitivity throws up a different set of challenges. Our method accounts for this sensitivity. [2]."

The researchers used computational methods to design a system to improve the electrolysis of CO₂. Using the enzyme-based system, the level of fuel production increased by 18 times compared to the current <u>benchmark</u> solution. [3]. To improve the local environment further, the team showed how two enzymes can work together, one producing fuels and the other controlling the environment. They found that adding another enzyme sped up the reactions, both increasing efficiency and reducing unwanted byproducts.

The researchers say that the secret to more efficient CO₂ electrolysis lies in the catalysts. [4]. There have been big improvements in the development of synthetic catalysts in recent years, but they still fall short of the enzymes used in this work.

(Adapted from scitechdaily.com)

Question 43: Which of the following is indicated in paragraph 1?

- A. Enzymes have just been discovered to generate energy.
- B. Carbon emissions can be a source of eco-friendly fuels.
- C. Generating energy from carbon emissions is polluting.
- D. Using enzymes to generate energy only works in laboratories.

Question 44: What is the common drawback of producing energy from CO₂?

- (A.) Attempts to reduce waste result in inefficiency.
- B. It is costly to capture CO₂ from different sources.
- C. The rate of CO₂ conversion is affected by bacteria.
- D. The process requires a large amount of hydrogen.

Question 45: What does the word "they" in paragraph 2 refer to?

A. bacteria

(B.) enzymes

C. chemical reactions

D. catalysts

Question 46: Which of the following can best replace the word "benchmark" in paragraph 4?

A. standard

B. workable

C. temporary

D. common

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Question 47:	What is NOT the benefit of using two enzymes in fuel production?					
(A.)	Reducing the amount of CO ₂ B. Improving the environment of CO ₂	nent				
	Increasing energy output D. Accelerating reactions					
	Where in the passage does the sentence "Accordingly, the local	environment				
If the Cambell	adjusted to match the enzyme's ideal working conditions" best fit in					
(A.)	[1] B. [2] C. [4] D	. [3]				
Question 49:	Which of the following is true, according to the passage?					
A.	The more enzymes are involved in the process, the better the results.					
В.	Dr. Moore is the first researcher to notice enzymes' ability to produce fuels.					
c.	Artificial catalysts developed recently outperform the enzymes in this project.					
D.	Enzymes' effectiveness is subject to its surrounding chemical conditions.					
Question 50:	Which can be the best title of the passage?					
A.	The superiority of manmade chemicals					
B.	A recent success in reducing CO ₂					
m wor baw C.	An outdated energy producing technique					
D.	An eco-friendly solution to energy production					
d testmewne ask						
Vrite a paragrap	h of 120-150 words on the following topic:					
n what ways have	e social networks such as Facebook, Instagram, or Tiktok changed your l	ife?				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	mes used in this work.					
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