

UNIT 5. INVENTIONS**A. LÝ THUYẾT****I. VOCABULARY****1. VOCABULARY**

No.	Word	Part of speech	Pronunciation	Meaning
1.	app	(n)	/æp/	ứng dụng
2.	battery	(n)	/'bætəri/	pin
3.	button	(n)	/'bʌtn/	nút bấm
4.	chatbot	(n)	/'tʃætbot/	máy nhắn tin tự động
5.	designer	(n)	/di'zainə/	nhà thiết kế
6.	device	(n)	/di'vaɪs/	thiết bị
7.	e-reader	(n)	/i:/'ri:ðə/	máy đọc sách điện tử
8.	furniture	(n)	/'fɜ:niʃə/	nội thất
9.	hardware	(n)	/'hɑ:dweə/	phần cứng
10.	laboratory	(n)	/lə'bɒrətəri/	phòng thí nghiệm
11.	machine	(n)	/mə'ʃi:n/	máy móc
12.	robot	(n)	/'rəʊbɒt/	người máy
13.	route	(n)	/ru:t/	tuyến đường
14.	software	(n)	/'sɒftweə/	phần mềm
15.	stain	(n)	/stem/	vết bẩn
16.	amaze	(v)	/ə'meɪz/	làm kinh ngạc
17.	book	(v)	/bʊk/	đặt (phòng,...)
18.	charge	(v)	/tʃɑ:ʒ/	sạc pin
19.	create	(v)	/kri'eɪt/	tạo nên
20.	display	(v)	/dis'pleɪ/	trưng bày
21.	enable	(v)	/ɪn'eɪbəl/	cho phép
22.	remove	(v)	/rɪ'mu:v/	dời
23.	run	(v)	/rʌn/	chạy (chương trình)
24.	driverless	(adj)	/'draɪvləs/	không người lái

2. COLLOCATIONS/ PHRASES

No.	Word	Part of speech	Pronunciation	Meaning
25.	3D printing	(np)	/ˌθri:'di:/ 'prɪntɪŋ/	in 3 chiều
26.	at the same time	(phrase)	/æt/ /ðə/ 'seɪm/ 'taɪm/	đồng thời
27.	computer memory	(np)	/kəm'pjʊ:tə/ 'meməri/	bộ nhớ của máy tính
28.	computer science	(np)	/kəm'pjʊ:tə/ 'saɪəns/	khoa học máy tính
29.	educational app	(adj, n)	/ˌedʒə'keɪʃənəl/ æp/	ứng dụng về giáo dục
30.	express emotions	(v, n)	/ɪks'pres/ /ɪ'məʃənz/	thể hiện cảm xúc
31.	find solution to	(phrase)	/faɪnd/ /sə'lu:ʃən/ /tu:/	tìm giải pháp cho
32.	human intelligence	(np)	/'hju:mən/ /ɪn'telɪdʒəns/	trí thông minh của con người
33.	language game	(np)	/'læŋgwɪdʒ/ /geɪm/	trò chơi để học ngôn ngữ
34.	processor speed	(np)	/'prəʊsesə/ /spi:d/	tốc độ bộ xử lý
35.	random access memory (RAM)	(np)	/'rændəm/ 'ækses/ 'meməri/ (ræm/)	bộ nhớ khả biến (máy tính)
36.	robot vacuum	(np)	/'rəʊbɒt/ 'vækju:m/	rô bốt hút bụi
37.	screen size	(np)	/skri:n/ /saɪz/	kích thước màn hình

38.	set the time	(v, n)	/set/ /ðə/ /taɪm/	cài đặt thời gian
39.	storage space	(np)	/'stɔ:ɹɪdʒ/ /speɪs/	dung lượng lưu trữ (máy tính)
40.	take a look at	(phrase)	/teɪk/ /ə/ /lʊk/ /æt/	xem
41.	wipe away	(vp)	/waɪp/ /ə'wei/	lau đi

3. WORD FORMATION

No.	Word	Part of speech	Pronunciation	Meaning
42.	apply	(v)	/ə'plai/	áp dụng, ứng dụng
43.	application	(n)	/,æpli'keɪʃən/	ứng dụng
44.	collect	(v)	/kə'lekt/	thu thập (thông tin)
45.	collection	(n)	/kə'leɪʃən/	sự thu thập (thông tin)
46.	communicate	(v)	/kə'mju:nikeɪt/	giao tiếp
47.	communication	(n)	/kə,mju:nɪ'keɪʃən/	giao tiếp
48.	convenience	(n)	/kən'vi:niəns/	sự thuận lợi
49.	convenient	(adj)	/kən'vi:niənt/	thuận lợi
50.	dimension	(n)	/di'menʃən/	chiều (không gian)
51.	dimensional	(adj)	/daɪ'menʃənəl/	chiều (không gian)
52.	install	(v)	/ɪn'stɔ:l/	cài đặt (phần mềm, chương trình máy tính)
53.	installation	(n)	/,ɪn.stə'leɪ.ʃən/	sự cài đặt
54.	invent	(v)	/ɪn'vent/	phát minh
55.	invention	(n)	/ɪn'venʃən/	phát minh
56.	process	(v)	/'prəʊses/	xử lý
57.	processor	(n)	/'prəʊsesə/	bộ xử lý
58.	solve	(v)	/sɒlv/	giải quyết
59.	solution	(n)	/sə'lu:ʃən/	giải pháp
60.	store	(v)	/stɔ:/	lưu trữ
61.	storage	(n)	/'stɔ:ɹɪdʒ/	sự lưu trữ

II. PRONUNCIATION

Trọng âm ở danh từ có 3 âm tiết

Hầu hết các danh từ trong tiếng Anh có 3 âm tiết thì trọng âm thường rơi vào âm tiết thứ nhất hoặc thứ hai.

1. TRỌNG ÂM RƠI VÀO ÂM TIẾT THỨ NHẤT

Danh từ có ba âm tiết mà trọng âm rơi vào âm tiết thứ nhất khi âm tiết thứ hai là nguyên âm yếu (/ə/, /ɪ/...).

chocolate	/'tʃɒkələt/
family	/'fæməli/
Internet	/'ɪntə.net/

2. TRỌNG ÂM RƠI VÀO ÂM TIẾT THỨ HAI

Danh từ có ba âm tiết mà trọng âm rơi vào âm tiết thứ hai khi âm tiết thứ 3 có chứa nguyên âm yếu /ə/ hay /ɪ/ hoặc âm tiết thứ 2 chứa nguyên âm dài hoặc nguyên âm đôi.

computer	/kəm'pjʊ:tə/
example	/ɪg'zɑ:mpəl/

banana	/bəˈnɑːnə/
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Các danh từ có 3 âm tiết có tận cùng là *-sion*, *-tion* thì trọng âm vào âm tiết thứ 2

invention	/ɪnˈvenʃən/
solution	/səˈluːʃən/
discussion	/dɪsˈkʌʃən/

III. GRAMMAR

1. THÌ HIỆN TẠI HOÀN THÀNH

a. Cách dùng

STT	Cách dùng	Ví dụ
1	Diễn tả một hành động xảy ra trong quá khứ và kết quả ở hiện tại	I have forgotten the password of my laptop. Now I cannot open it. Tôi đã quên mật khẩu của máy tính xách tay của tôi. Bây giờ tôi không thể mở nó.
2	Diễn tả hành động đã hoàn thành cho tới thời điểm hiện tại mà không đề cập tới nó xảy ra khi nào.	I have bought a new smart phone. Tôi đã mua một chiếc điện thoại thông minh mới.
3	Diễn tả một kinh nghiệm, trải nghiệm chung chung	I have never installed any educational app on my phone. Tôi chưa từng cài đặt bất kỳ ứng dụng học tập nào trên điện thoại của mình

b. Công thức

THỂ	ĐẠI TỪ	ĐỘNG TỪ
Khẳng định	I / He/ she/ it	HAS + PII/V3
	You/ we/ they	HAVE + PII/V3
Phủ định	I / He/ she/ it	HAS NOT (= HASN'T) + PII/V3
	You/ we/ they	HAVE NOT (= HAVEN'T) + PII/V3
Nghi vấn		HAS I/ HE/ SHE/ IT + PII/V3?
		HAVE YOU/ WE/ THEY + PII/V3?

c. Dấu hiệu nhận biết

Thì hiện tại hoàn thành thường đi kèm với một số trạng từ sau:

STT	Trạng từ	Ví dụ
1	Just	I have just bought a laptop. Tôi mới mua một chiếc máy tính xách tay.
2	Ever, never	I have never used this machine. Tôi chưa bao giờ sử dụng chiếc máy này.
3	Already, yet	I have already stored my class photos in my computer. Tôi đã lưu ảnh lớp học của mình vào máy tính rồi . I haven't run this computer program yet . Tôi chưa chạy chương trình máy tính này.
4	For, since	He has used this smartphone for 3 years. Anh ấy đã sử dụng chiếc điện thoại thông minh này được 3 năm. They have used AI in education since 2020. Họ đã sử dụng trí tuệ nhân tạo trong giáo dục từ năm 2020.

2. DANH ĐỘNG TỪ (GERUNDS) VÀ ĐỘNG TỪ NGUYÊN THỂ CÓ TO (TO-INFINITIVES)

a. Danh động từ *V-ing* (Gerunds)

STT	Chức năng	Ví dụ
1	Làm chủ ngữ của câu	Installing this new software is difficult. Việc cài đặt phần mềm mới này rất khó khăn. Using too much smartphone is harmful to people's health. Sử dụng điện thoại thông minh quá nhiều có hại cho sức khỏe con người.
2	Đứng sau một số động từ nhất định	She likes playing games on her smartphone. Cô ấy thích chơi trò chơi trên điện thoại thông minh của mình. He avoids using too much social media. Anh ấy tránh sử dụng quá nhiều phương tiện truyền thông xã hội.

Một số động từ theo sau là *V-ing*

admit thừa nhận	deny từ chối	finish hoàn thành	mind phiền
avoid tránh	dislike không thích	give up từ bỏ	miss bỏ lỡ
(can't) help không dừng	enjoy tận hưởng	imagine tưởng tượng	practice thực hành
(can't) stand không chịu được	fancy ưa thích	involve bao gồm, liên quan	put off trì hoãn
consider cân nhắc	feel like cảm thấy thích	keep (on) tiếp tục	risk rủi ro

b. Động từ nguyên thể *to-infinitives*

STT	Chức năng	Ví dụ
1	Đứng sau một số động từ nhất định	I decide to buy a new cleaning robot. Tôi quyết định mua một con robot dọn dẹp. She wants to buy a 3D-printing pen. Cô ấy muốn mua một cây bút in 3D.
2	Đứng sau một số tính từ chỉ quan điểm. Cấu trúc: It's + adj + to V....	It is convenient to study on smartphone. Thật tiện lợi khi học trên điện thoại thông minh.
3	Được dùng làm chủ ngữ trong câu	To study online via Zoom is time-saving. Học trực tuyến qua Zoom tiết kiệm thời gian.

Một số động từ theo sau là *to-infinitives*

agree đồng ý	help giúp	ask yêu cầu	refuse từ chối
choose chọn	hope hi vọng	offer đề nghị	promise hứa
fail thất bại, không làm	intend dự định	plan kế hoạch	want muốn

c. Lưu ý

Một số động từ theo sau bởi cả *V-ing* hoặc *to-infinitives* mà **nghĩa không thay đổi**; like, love, hate, prefer

B. THỰC HÀNH

I. PRONUNCIATION

Task 1. Find the word whose underlined part differs from the other three in pronunciation in each of the following questions.

- | | | | |
|----------------------------|------------------------|----------------------|-----------------------|
| 1. A. comm <u>u</u> nicate | B. <u>u</u> seful | C. s <u>u</u> itable | D. sol <u>u</u> tion |
| 2. A. lap <u>o</u> p | B. <u>a</u> llow | C. <u>a</u> pp | D. tra <u>n</u> sport |
| 3. A. ma <u>ch</u> ine | B. <u>ch</u> ange | C. <u>ch</u> atbot | D. <u>ch</u> arge |
| 4. A. r <u>o</u> bot | B. p <u>ro</u> cessor | C. c <u>o</u> ntrol | D. p <u>ro</u> gramme |
| 5. A. w <u>i</u> pe | B. exp <u>e</u> nsive | C. d <u>e</u> signer | D. l <u>i</u> fe |
| 6. A. inv <u>e</u> ntion | B. smartp <u>h</u> one | C. softw <u>a</u> re | D. l <u>i</u> ght |
| 7. A. I <u>n</u> ternet | B. <u>e</u> ffective | C. <u>e</u> xciting | D. r <u>e</u> move |
| 8. A. v <u>a</u> cuum | B. d <u>i</u> stance | C. c <u>o</u> llect | D. <u>c</u> reate |
| 9. A. b <u>u</u> ttion | B. s <u>t</u> udy | C. h <u>u</u> man | D. c <u>u</u> stomer |
| 10. A. sp <u>a</u> ce | B. disp <u>a</u> y | C. t <u>a</u> ke | D. inst <u>a</u> ll |

Task 2. Find the word that differs from the other three in the position of stress in each of the following questions.

- | | | | |
|--------------------|--------------|---------------|----------------|
| 1. A. equipment | B. invention | C. solution | D. Internet |
| 2. A. customer | B. processor | C. computer | D. furniture |
| 3. A. designer | B. battery | C. area | D. suitable |
| 4. A. copy | B. useful | C. daily | D. machine |
| 5. A. smartphone | B. laptop | C. device | D. learner |
| 6. A. distance | B. invent | C. button | D. robot |
| 7. A. hardware | B. apply | C. software | D. study |
| 8. A. allow | B. chatbot | C. human | D. reader |
| 9. A. powerful | B. expensive | C. various | D. actually |
| 10. A. communicate | B. available | C. convenient | D. application |

II. VOCABULARY

Task 1. Write the words below the pictures.

smartphone

laptop

computer

e-reader

battery

robot

 1. <u>battery</u>	 2. <u>robot</u>	 3. <u>smartphone</u>
 4. <u>laptop</u>	 5. <u>e-reader</u>	 6. <u>computer</u>

Task 2. Choose the correct word to complete each sentence.

- He is currently enrolled in a computer science **programme** / **designer** at university.
- The **chatbot** / **distance** provides instant customer support on the company's website.
- The GPS helps me find the best **route** / **furniture** to go travelling.
- The **battery** / **processor** speed is measured in gigahertz (GHz).
- Press the button to start the **stain** / **machine**. It may take a few minutes for it to begin working.
- An **invention** / **e-reader** allows you to carry hundreds of books in a small device.
- Electric cars are a cost-effective and eco-friendly mode of **transport** / **communication**.

8. The **area / development** of renewable energy sources is vital for a greener future.
9. **Computer / Laptop** science has revolutionised the way we process information and interact with technology.
10. 3D **solution / printing** has opened up new possibilities for manufacturing and design.
11. The more **screen size / computer memory** your device has, the smoother and faster it can run many applications at the same time.
12. With today's technology, storage **space / button** is no longer a major concern for keeping files and documents.
13. The **robot vacuum / random access memory (RAM)** efficiently cleans the house while I'm busy with other tasks.
14. **Language game / Human intelligence** is a complex and fascinating subject that scientists continue to explore.
15. The invention of **smartphones / electricity** revolutionised communication worldwide.

Task 3. Mark the letter A, B, C or D to indicate the correct answer to each of the following questions

1. Don't forget to _____ the time on your digital watch before heading out.
A. make B. set C. do D. take
2. Virtual reality technology never fails to _____ users with its experiences.
A. amaze B. invent C. allow D. change
3. Project management tools help businesses _____ and do tasks effectively.
A. copy B. express C. book D. plan
4. Cloud storage enables users to _____ and access their files from anywhere with an internet connection.
A. communicate B. store C. act D. charge
5. The delete function allows users to _____ unwanted files and data.
A. create B. run C. remove D. display
6. This robot can help people _____ the dirt on the floor.
A. travel around B. walk down C. go down D. wipe away
7. Please _____ a look at this new electric car. It has many new functions for users.
A. do B. keep C. take D. make
8. _____ new software can improve the functions of your computer.
A. Installing B. Applying C. Booking D. Allowing

Task 4. Match each word on the left with the word that has OPPOSITE meaning on the right.

1. useful b	a. worthless
2. expensive e	b. useless
3. valuable a	c. limited
4. available c	d. inappropriate
5. suitable d	e. cheap
6. light g	f. weak
7. powerful f	g. heavy

Task 5. Complete each sentence with one suitable word.

daily	exciting	valuable	dimensional
various	driverless	effective	educational

1. _____ **Educational** _____ apps have changed the way children learn and interact with technology.
2. The market offers _____ **various** _____ options for smartphones with different features and prices.

3. Online learning has proven to be an **effective** way for students to improve their study results.
4. Nowadays, we rely heavily on our smartphones for **daily** tasks and communication.
5. Three-**dimensional** printers have opened up new possibilities in design.
6. The development of **driverless** cars aims to develop transportation and reduce accidents.
7. Exploring chatbots can be an **exciting** experience for users.
8. The invention of the printing press was a **valuable** milestone in spreading knowledge and information.

Task 6. Complete each sentence using the correct form of the word in brackets

1. The smartphone offers a practical **solution** for organising daily tasks and appointments. (SOLVE)
2. The computer's **processor** allows for smooth and fast performance. (PROCESS)
3. **driverless** cars are becoming more common as technology advances. (DRIVER)
4. Cloud **storage** provides a convenient way to access your files from anywhere. (STORE)
5. The new medicine has proven to be **effective** in treating the common cold. (EFFECT)
6. Online shopping is **convenient** to purchase goods from the comfort of your home. (CONVENIENCE)
7. It is easier to **communicate** instantly through messaging apps. (COMMUNICATION)
8. The advancement of medical **equipment** has greatly improved patient care. (EQUIP)
9. The language learning app is **useful** for practising vocabulary and grammar. (USE)
10. The **invention** of the internet has revolutionized the way we communicate and access information. (INVENT)

III. GRAMMAR

Task 1. Mark the letter A, B, C or D to indicate the correct answer to each of the following questions.

1. Steve Jobs _____ the first iPhone in 2007.
A. has developed B. developed C. develops D. was developing
2. She has _____ designing a new website for the company.
A. just finished B. just finishes C. finished just D. has just finish
3. While she _____ on her laptop, the power suddenly went out.
A. works B. worked C. was working D. has been working
4. I _____ programming languages since I was at secondary school.
A. learned B. learn C. have learning D. have learned
5. At 8 p.m. yesterday, he _____ code for a new software feature.
A. writes B. is writing C. wrote D. was writing
6. _____ any technology conferences recently?
A. Did you attend B. Have you attending
C. Have you attended D. Are you attending
7. When I called, they _____ the latest breakthrough in robotics.
A. discuss B. were discussing C. has discussed D. had discussed
8. He _____ his computer to the latest operating system lately.
A. upgrades B. did upgrade C. has upgraded D. is upgrading
9. They _____ a tech conference in Silicon Valley last year.
A. attend B. has attended C. attended D. are attending
10. _____ the latest smartphone model in stores?
A. Do you see B. Did you see C. Have you seen D. Are you seeing

Task 2. Complete each sentence using the correct form of the verb in brackets.

1. Up to now, we **have used** (use) drones for various purposes.

2. While I _____ **was browsing** _____ (browse) the internet, I read an interesting article about renewable energy, was browsing
3. For the last ten years, the company _____ **has developed** _____ (develop) many devices that improve people's health.
4. Since the early 2000s, companies _____ **have introduced** _____ (introduce) many smart devices that have greatly changed our lives.
5. She _____ **discovered** _____ (discover) a feature in the software that made her task easier.
6. The first personal computer _____ **became** _____ (become) available in the 1970s, changing the way people worked.
7. Technologists _____ **have worked** _____ (work) on self-driving cars for over a decade.
8. For the last ten years, scientists _____ **have not found** _____ (not find) a complete cure for certain types of cancer yet.
9. For over a century, inventors _____ **have created** _____ (create) different models of aircraft to make international travel faster.
10. While the presentation _____ **was taking** _____ (take) place, I was taking notes on the latest advancements in AI.

Task 3. Choose the correct form of the verb to complete each sentence.

1. The scientist decided **to study / studying** the latest invention in detail.
2. The government is considering **to fund / funding** the invention due to its potential.
3. The inventor is excited about **to present / presenting** her new invention at the conference
4. We plan **to use / using** this new device in our production system.
5. He avoids **to use / using** the new app because he thinks it's not effective.
6. He suggested **to try / trying** out this chatbox to save time.
7. They were the first **to invent / inventing** a device that can translate real-time speech.
8. She hopes **to finish / finishing** her invention before the product launch meeting.

Task 4. Complete each sentence using the correct form of the verb in brackets.

1. Researchers are aiming _____ **to create** _____ (create) more efficient solar panels.
2. They finished _____ **testing** _____ (test) the new app's features.
3. I hope _____ **to learn** _____ (learn) more about coding and programming.
4. Teachers often suggest _____ **using** _____ (use) educational apps to enhance the learning process.
5. Scientists enjoy _____ **experimenting** _____ (experiment) with new devices and technologies.
6. By not researching the market, we risk _____ **creating** _____ (create) an invention that no one needs or wants.
7. Technologists are trying _____ **to develop** _____ (develop) AI that can understand human emotions.
8. He admitted _____ **using** _____ (use) his smartphone during the meeting.
9. It is exciting _____ **to see** _____ (see) how artificial intelligence continues to develop.
10. _____ **Using** _____ (use) social media platforms has become a common way to stay connected.

IV. READING

Task 1. Read the following passage and mark the letter A, B, C or D to indicate the correct word or phrase that best fits each of the numbered blanks.

Many people already use smart watches, smart jewellery and fitness bands to track their sleep; (1) _____, alarms that wake people (2) _____ at the suitable point in their sleep cycle and motion sensor apps that analyse sleep patterns.

New ways of tracking sleep could soon include (3) _____ a pair of pyjamas with sensors to track changes in posture, respiratory and heart rate, or hugging a robot pillow, (4) _____ algorithm creates a breathing pattern to help you fall asleep.

(5) _____ care robots have already been used in Japan to test whether they could help older people sleep better. (6) _____ to watch over residents (7) _____ night in care homes, they

give staff information on how well the residents are sleeping and let them know (8) _____ anyone is not well.

Dream management technologies are in much earlier (9) _____ of development. Scientists believe that sensory stimulation technologies and devices, such as virtual reality, can be used for sleep engineering. They are aimed (10) _____ sleep quality and enhance memory.

Adapted from: <https://theconversation.com/technology-is-radically-changing-sleep-as-we-know-it-190282>

- | | | | |
|-------------------|--------------|-----------------|---------------|
| 1. A. for example | B. therefore | C. however | D. otherwise |
| 2. A. on | B. in | C. up | D. from |
| 3. A. create | B. to create | C. created | D. creating |
| 4. A. which | B. whose | C. who | D. that |
| 5. A. Meanwhile | B. Although | C. Not only | D. Despite |
| 6. A. Designing | B. Design | C. To design | D. Designed |
| 7. A. in | B. on | C. at | D. of |
| 8. A. to | B. if | C. for | D. or |
| 9. A. forms | B. stages | C. funds | D. houses |
| 10. A. improved | B. improving | C. to improving | D. to improve |

Task 2. Read the passage and decide whether the following statements are true (T), false (F) or not given (NG)

There are two main technologies available for drones to detect nearby objects. The first is radar, developed just before World War II, that sends out radio waves and measures their reflections from obstacles. Radar is still used as the primary system for air traffic controllers to track planes in the sky. Ships also use radar to avoid accidents at night or in foggy conditions.

Lidar, developed more recently, uses lasers instead of radio waves, and can provide extremely detailed images of nearby objects. The disadvantage is that both radar and lidar systems have been heavy and expensive. That makes them hard to fit on relatively small drones; also, heavier drones require more battery power to operate, which requires bigger (and heavier) batteries.

There is hope, though. Research in obstacle sensors and accident avoidance technology for self-driving cars has encouraged the development of small, lower- cost radar and lidar devices. Once they are small, and energy-efficient enough not to quickly exhaust drone batteries, both types of sensors could help solve the drone “see-and-avoid,” or really, because drones don’t have eyes, the “detect-and-avoid” problem.

Adapted from: <https://theconversation.com/obstacle-avoidance-the-challenge-for-drone- package-delivery-70241>

- ___ **T** ___ 1. Radar technology was developed before World War II.
- ___ **T** ___ 2. Radar is primarily used for tracking planes by air traffic controllers.
- ___ **F** ___ 3. Ships use lidar to avoid accidents in foggy conditions.
- ___ **F** ___ 4. Lidar uses radio waves to detect nearby objects.
- ___ **F** ___ 5. Radar and lidar systems have always been lightweight and affordable.
- ___ **NG** ___ 6. Lidar provides less detailed images than radar does.
- ___ **T** ___ 7. Heavier drones need more battery power to operate.
- ___ **NG** ___ 8. The development of radar and lidar devices for self-driving cars has discouraged research in obstacle sensors.
- ___ **T** ___ 9. Small and energy-efficient radar and lidar devices could help drones avoid obstacles.
- ___ **T** ___ 10. Drones face a “see-and-avoid” problem due to their lack of eyes.

Task 3. Read the following passage and choose the correct answer to each of the following questions.

By 2025, the number of internet users and phone users will rise to double the number today. The experts also suggest that other devices such as smartwatches and smart wearables will be sold as much as mobile phones. Technology has become so popular that the industry experts also **anticipate** that every consumer will own two mobile phones or more in the future.

Many concepts are introduced in the glimpse of how mobile phones might take their future developments. Many features that have been put out are holographic displays, flexible frames, educational tools, and most importantly, eco-friendly smartphones. All of these are related to mobile technology but they have not been **accomplished** to the last level. People expect some of the better versions from these kinds of features that come along with each mobile phone. Another topic can be the design of a mobile phone as **it** is always similar for almost all phones. We have rectangular mobile phones today. We can also expect them to come along in different shapes and sizes which are unusual today. In the future, we can expect more variety in design as well as the features inside each mobile phone.

The smartphone is a companion device that is inspired by human behaviours. It is designed to help the users connect with their mobile phones physically as well as emotionally. You can seriously notice how your mood changes when you have a good mobile phone and when your mobile phone is not working. There are many cool features that come along with many mobile phones such as the camera or some simple features such as setting reminders or alarms. Having multiple devices to help you is eliminated by having one mobile phone.

Adapted from: <https://www.linkedin.com/pulse/rapid-development-mobile-technology-quickmobiles>

- Which of the following can be the best title for the passage?
 - The Evolution of Mobile Phones
 - The Rise of Internet Users
 - Predictions about Future Mobile Phones
 - The Popularity of Smart Wearables
- The word “**anticipate**” in paragraph 1 is closest in meaning to _____.
 - ignore
 - predict
 - remind
 - work
- According to experts, which types of devices are expected to be sold as much as mobile phones?
 - laptops
 - smart refrigerators
 - smartwatches and smart wearables
 - gaming consoles
- How many mobile phones might consumers own in the future?
 - None
 - One
 - Two or more
 - Three
- The word “**accomplished**” in paragraph 2 is closest in meaning to _____.
 - banned
 - destroyed
 - used
 - achieved
- What are the most important features of future mobile phones?
 - holographic displays
 - flexible frames
 - educational tools
 - eco-friendly features
- How might the design of mobile phones change in the future?
 - Mobile phones will only come in one size and shape.
 - Mobile phones will look exactly the same as they do now.
 - Mobile phones will only have eco-friendly designs.
 - Mobile phones might come in different shapes and sizes.
- The word “**it**” in paragraph 2 refers to _____.
 - mobile phone
 - rectangular
 - design
 - topic
- Why is a smartphone considered a companion device?
 - Because it is a small device.
 - Because it is used for making phone calls.
 - Because it is inspired by human behaviors.
 - Because it is meant to replace all other electronic devices.
- According to the passage, which of the following is NOT true?
 - The number of people using the internet and phones will double by 2025.
 - There might be more smartphone designs in the future.

- C. Smartphones are inspired by human behaviours.
D. Smartphones do not have an impact on people's feeling.

V. WRITING

Task 1. Reorder the given words and phrases to form meaningful sentences.

1. communicating / distances. / over / are / in / Telephones / useful / long (8 words)
1. Telephones are useful in communicating over long distances.
2. since / was / a / television / designs / TV / invented. / changed / lot / have (10 words)
2. TV designs have changed a lot since television was invented.
3. has / areas / life. / AI / to / been / various / applied / of (9 words)
3. AI has been applied to various areas of life.
4. one / important / of / century. / AI / the / is / inventions / 21st / the / of / most (12 words)
4. AI is one of the most important inventions of the 21st century.
5. processor / can / means / faster. / your / High / speed / computer / that / run. (10 words)
5. High processor speed means that your computer can run faster.

Task 2. Write meaningful sentences based on the given clues.

1. Smartphones / allow / us / have / access / Internet / anywhere.
1. Smartphones allow us to have access to the Internet from anywhere.
2. AI / can / used / many / smartphones / collect / information / traffic.
2. AI can be used on many smartphones to collect information about traffic.
3. Since / people / invented / first / computer, they / created / many / other / inventions.
3. Since people invented the first computer, they have created many other inventions.
4. It / very / convenient / learners / learn / English / educational apps.
4. It is very convenient for learners to learn English with educational apps.
5. Vacuum cleaners / useful / us / clean / house / quickly.
5. Vacuum cleaners are useful for us to clean the house quickly.

Task 3. Write a letter (120-150 words) to a friend to tell about what you like about an invention.

Dear Hung,

I am writing to tell you about an e-reader that I have bought recently and I think you'll love it, too.

I must admit that it's been an awesome addition to my daily life. What I love about it is its convenience. With the capacity to store thousands of books, it's like carrying a whole library in my pocket! Also, the features such as adjustable text size, fonts, and lightness make reading incredibly comfortable.

Moreover, the technology makes the screen look like real paper, which is easier for the eyes. The battery life is amazing, too. It lasts several days on a single charge!

I still love the feel of physical books, but the e-reader has its significant advantages, especially for travel. Do consider getting one, it's been a great discovery for me.

Take care and look forward to your reply.

Best regards,

Hùng thân mến,

Mình viết thư này để kể cho bạn nghe về một thiết bị đọc sách điện tử mà mình mới mua gần đây và mình nghĩ bạn cũng sẽ thích nó.

Mình phải thừa nhận rằng đó là một sự bổ sung tuyệt vời cho cuộc sống hàng ngày của mình. Điều mình thích ở nó là sự tiện lợi của nó. Với khả năng lưu trữ hàng nghìn cuốn sách, mình như mang cả một thư viện trong túi! Ngoài ra, các tính năng như điều chỉnh kích thước văn bản, phông chữ và độ sáng giúp việc đọc trở nên vô cùng thoải mái.

Hơn nữa, công nghệ này giúp màn hình giống như giấy thật, dễ nhìn hơn. Tuổi thọ pin cũng rất tuyệt

vời. Nó kéo dài vài ngày trong một lần sạc!

Mình vẫn thích cảm giác đọc sách giấy, nhưng thiết bị đọc sách điện tử có những ưu điểm đáng kể, đặc biệt là dành cho du lịch. Hãy cân nhắc việc mua một thiết bị, đó là một khám phá tuyệt vời đối với mình.

Giữ gìn sức khỏe và mong nhận được hồi âm từ bạn.

Thân ái,

V. LISTENING

Task 1. Listen to a conversation about driverless cars and answer each of the questions below. You can listen to the recording TWICE.

- What is true about a driverless car?
 - It only works on specific roads.
 - It uses only cameras to navigate.
 - It is controlled by a remote operator.
 - It can move safely with little or no human input.
- How do autonomous vehicles work?
 - They use a GPS system to navigate.
 - They use only cameras to sense their environment.
 - They use both sensors and software.
 - They use radar only to sense their environment.
- What does the guest say about the safety of driverless cars?
 - They are not as safe as cars driven by humans.
 - They are safer because they don't get tired or distracted.
 - They are unsafe because of their reliance on technology.
 - They can only be safe if they are driven by trained people.
- What is the potential impact of driverless cars?
 - lead drivers to have fewer job opportunities
 - decrease traffic congestion and emissions
 - cause more traffic accidents
 - reduce mobility for the elderly or disabled
- When can we expect widespread use of driverless cars?
 - They are already in widespread use.
 - They will never be in widespread use.
 - They will be a few years away from widespread use.
 - They will be widely used in a year.

SCRIPT:

Host: Hello, listeners. Welcome back to "Tech Talk Time." I'm your host, James, and today we're talking about the future of transportation: driverless cars. First, let's hear from our guest from the Innovation Centre. What are driverless cars, and how are they going to change our lives?

Guest: Hi, James. An autonomous vehicle, or driverless car, is a vehicle that is capable of sensing its environment and moving safely with little or no human input.

Host: Sounds like science fiction, doesn't it?

Guest: It might seem so, but these technologies are already in use today to some extent.

Host: Incredible! So, how do these cars work?

Guest: Well, they use a combination of sensors and software. The sensors - which could include cameras, radar, and lidar - collect data about the environment, which is then interpreted by the software to navigate and control the vehicle.

Host: Fascinating! But are they safe?

Guest: Safety is a major focus in the development of autonomous vehicles. Many experts believe that these vehicles will be safer than human drivers. They don't get tired or distracted, which can significantly reduce accidents. However, there are still challenges to solve, such as how these systems react in unpredictable situations.

Host: That's a good point. How could these cars affect society?

Guest: There are numerous potential impacts. For instance, driverless cars could significantly reduce traffic jams and emissions. They could also help people who can't drive get around more easily, like the elderly or disabled.

Host: Fascinating! Lastly, when can we expect these cars on our roads?

Guest: Some areas have already permitted autonomous cars for testing, but we may still be a few years away from widespread use.

Host: I think that's a great point to end on. Thank you for your time

Task 2. Listen to a conversation about Artificial Intelligence (AI) and fill in each blank with one suitable word. You can listen to the recording TWICE.

Definition of AI	<p>- computer (1) systems or machines, performing tasks that usually require human (2) intelligence</p> <p>- tasks include learning, (3) problem-solving, language understanding and so on.</p>
Benefits of AI	<p>- increase (4) productivity and efficiency, working both day and night without (5) breaks</p> <p>- (6) analyse large amounts of data quickly and (7) accurately, helping in areas such as healthcare and climate science</p>
Drawbacks of AI	<p>- cause job displacement, potentially (8) replacing human workers in some industries</p> <p>- lead to the issue of (9) security. If AI systems are hacked, they could be used for bad purposes.</p> <p>- might make decisions that humans don't agree with or understand if its systems are not properly designed or (10) controlled.</p>

SCRIPT:

Host: Welcome back to our Future Tech series. Today, we're discussing the pros and cons of artificial intelligence, or AI. Joining us is Dr. Emily Grant.

Dr. Grant: Thank you for having me.

Host: It's a pleasure, Dr. Grant. Can we start with a brief explanation of what AI is?

Dr. Grant: Certainly. AI refers to computer systems or machines that are capable of performing tasks that usually require human intelligence. These tasks might include learning, reasoning, problem-solving, perception, and language understanding.

Host: That's fascinating! Could you say the benefits of AI?

Dr. Grant: Of course. There are numerous benefits of AI. For one, it can increase productivity and efficiency. It can work both day and night without breaks and doesn't get tired or bored. AI is also great for analysing large amounts of data quickly and accurately. This could have applications in areas such as healthcare to help to diagnose diseases, or in climate science to predict weather patterns.

Host: Those are really impressive benefits. But what about the drawbacks?

- Dr. Grant: Well, like any technology, AI has its downsides. One major concern is job displacement. As AI becomes more capable, it could potentially replace human workers in certain industries. There's also the question of security. If AI systems are hacked, they could be used for bad purposes. And, lastly, there's a risk if AI systems are not properly designed or controlled, they might make decisions that humans don't agree with or understand.
- Host: AI has both positive and negative sides, indeed. So what's the future of AI looking like?
- Dr. Grant: The future of AI is uncertain. We'll likely see it becoming even more popular in our lives, but we'll also have to deal with the challenges it presents. As with any technology, the key will be to balance the benefits with the potential risks.
- Host: Well, there you have it. Thank you for your time, Dr. Grant.
- Dr. Grant: You're welcome, it was great to be here!

VII. SPEAKING

Task 1. Answer the questions.

1. Do you have any smart devices in your house?

Absolutely, we have smart devices at home. We have a smart TV that connects to the Internet and shows our favourite shows. We also have a smart virtual assistant, which plays music, sets reminders, and even answers our questions. In addition, we use smart lightning that turns on and off automatically, helping us save energy. It's cool how these devices make life more convenient and entertaining!

Chắc chắn rồi, nhà chúng tôi có các thiết bị thông minh. Chúng tôi có một TV thông minh kết nối với internet và chiếu các chương trình yêu thích của chúng tôi. Chúng tôi cũng có một trợ lý ảo để phát nhạc, đặt lời nhắc và thậm chí trả lời các câu hỏi của chúng tôi. Ngoài ra, chúng tôi sử dụng đèn chiếu sáng thông minh tự động bật và tắt, giúp chúng tôi tiết kiệm năng lượng. Thật tuyệt khi những thiết bị này làm cho cuộc sống trở nên tiện lợi và thú vị hơn!

2. Do you use any devices to help with your study?

Yes, I do use devices to help with my studies. I mainly use my laptop and smartphone. The laptop helps me with online learning, especially when I have to take online classes. I can attend classes, research topics, write assignments, and even work with classmates on projects. My smartphone is useful with educational apps that assist with language learning, maths problems, and quick information searching. These devices are important to my study and help me get better learning experience.

Có, tôi sử dụng các thiết bị để hỗ trợ việc học của mình. Tôi chủ yếu sử dụng máy tính xách tay và điện thoại thông minh. Máy tính xách tay giúp tôi học trực tuyến, đặc biệt là khi tôi phải tham gia các lớp học trực tuyến. Tôi có thể tham dự các lớp học, nghiên cứu về chủ đề, làm bài tập và thậm chí hợp tác với các bạn cùng lớp trong các dự án. Điện thoại thông minh của tôi thì hữu ích với các ứng dụng giáo dục hỗ trợ học ngôn ngữ, giải toán và tìm kiếm thông tin nhanh chóng. Những thiết bị này rất quan trọng đối với việc học của tôi và giúp tôi có được trải nghiệm học tập tốt hơn.

Task 2. Describe your favourite technology invention.

The smartphone is my favourite invention and it has really changed how I live every day. It's not just for phoning – it uses a bunch of cool stuff. It's like a little machine that helps me talk to people everywhere, go on the internet a lot, and learn so much. I can take pictures and show them to everyone, and I can also use it for other things like knowing about my health, money, new languages, and even cooking. The smartphone is really amazing because it's like having a helper. It can remind me about things, tell me where to go, and help me make plans. But that's not all – it's also a place where I can be creative. I can draw things, write stories, make music, and even make movies on it.

Most importantly, it's super handy. In this time when things are getting better and better, the smartphone is like a key that opens up a whole new world.

Điện thoại thông minh là phát minh yêu thích của tôi và nó đã thực sự thay đổi cách tôi sống hàng ngày. Nó không chỉ để gọi điện thoại – nó còn sử dụng rất nhiều thứ hay ho. Nó giống như một cỗ máy nhỏ giúp tôi nói chuyện với mọi người ở khắp mọi nơi, lên mạng và học hỏi được rất nhiều điều. Tôi có thể chụp ảnh và cho mọi người xem, đồng thời tôi cũng có thể sử dụng nó cho những việc khác như biết về sức khỏe, tiền bạc, ngôn ngữ mới và thậm chí cả nấu ăn. Chiếc điện thoại thông minh thực sự tuyệt vời vì nó giống như có một người trợ giúp. Nó có thể nhắc nhở tôi về mọi thứ, cho tôi biết nơi cần đến và giúp tôi lập kế hoạch. Nhưng đó chưa phải là tất cả - đó còn là nơi tôi có thể sáng tạo. Tôi có thể vẽ mọi thứ, viết truyện, sáng tác nhạc và thậm chí dùng nó để làm phim. Quan trọng nhất, nó cực kỳ tiện dụng. Trong thời điểm mọi thứ ngày càng tốt hơn, điện thoại thông minh giống như chiếc chìa khóa mở ra một thế giới.

C. BÀI KIỂM TRA

Mark the letter A, B, C or D to indicate the word whose underlined part differs from the other three in pronunciation in each of the following questions.

- Question 1: A. enable B. invent C. remove D. effective
 Question 2: A. installed B. allowed C. displayed D. expressed

Mark the letter A, B, C or D to indicate the word that differs from the other three in the position of the primary stress in each of the following questions.

- Question 3: A. software B. amaze C. collect D. control
 Question 4: A. convenient B. equipment C. processor D. emotion

Mark the letter A, B, C or D to indicate the correct answer to each of the following questions.

- Question 5: The robot vacuum has a button to _____ the time for cleaning.
 A. install B. make C. put D. set
- Question 6: _____ robots to perform daily tasks makes our lives become more convenient.
 A. Using B. To using C. To used D. Use
- Question 7: In the laboratory, scientists collect data and do _____ using advanced equipment.
 A. programmes B. experiments C. software D. devices
- Question 8: It's necessary _____ factors like the screen size and the battery before you decide _____ a computer.
 A. to consider/ buying B. considering/ buying
 C. to consider/ to buy D. considering/ to buy
- Question 9: Over the past few years, the invention of the Internet _____ the way we communicate with others.
 A. has completely changed B. completely has changed
 C. completely changes D. will completely change
- Question 10: The e-reader is an effective device for book lovers because it enables them _____ thousands of books on it.
 A. to storing B. to store C. storing D. store
- Question 11: I enjoy _____ language games on the Internet to improve my language skills.
 A. to play B. play C. to playing D. playing
- Question 12: She is an excellent designer, _____ is able to create various computer programmes.
 A. who B. which C. when D. that
- Question 13: With the invention of 3D printing, we can now create physical objects with different designs and materials _____.
 A. effect B. effective C. effectively D. ineffectively

Question 14: In the field of computer science, _____ significant developments, there is still much more to discover.

- A. due B. despite C. because of D. in spite

Question 15: Thanks to the Internet, we can find solutions _____ various problems with just a few clicks.

- A. on B. for C. of D. to

Question 16: Since this robot _____, it _____ an essential device for daily tasks, and I can't imagine life without it.

- A. invented/ became B. invented/ has become
C. was invented/ has become D. was invented/ became

Question 17: The high _____ speed of this computer allows it to run more quickly.

- A. process B. processor C. proceed D. processing

Question 18: I _____ installing new software on my laptop.

- A. have just finished B. just have finished C. just finished D. just finish

Question 19: It is very useful and convenient _____ with educational apps on my phone because I can study anytime and anywhere.

- A. to learning B. learning C. to learn D. learn

Mark the letter A, B, C or D to indicate the sentence that best completes each of the following exchanges.

Question 20: Two friends are talking about a new educational app.

Van: "Can you show me how to use this new educational app? People say that it's really useful for learning languages."

Hoa: "_____, I'd be happy to show you how it works."

- A. Certainly B. Not sure C. Maybe D. Of course not

Question 21: Two friends are talking about a robot vacuum.

Minh: "_____ a reliable robot vacuum for cleaning my apartment?"

Phong: "Sure! I've been using the EF Robot Vacuum, and it's been very effective."

- A. Can you tell me know B. Can you advise
C. Can you please recommend D. Can you show me know

Mark the letter A, B, C, D to indicate the word(s) CLOSEST in meaning to the underlined word(s) in each of the following questions.

Question 22: Many inventions, like robots and AI, have amazed us with their great features.

- A. surprised B. affected C. bored D. enabled

Question 23: The invention of this new medical device will help doctors to diagnose diseases more accurately and efficiently.

- A. laboratory B. furniture C. experiment D. equipment

Mark the letter A, B, C, D to indicate the word(s) OPPOSITE in meaning to the underlined word(s) in each of the following questions.

Question 24: Online shopping is a convenient way of shopping, enabling people to order products from the comfort of their homes.

- A. useful B. unsuitable C. available D. invaluable

Question 25: The latest mobile device has impressive features that enable users to do multiple tasks at the same time.

- A. prevent B. refuse C. allow D. approve

Mark the letter A, B, C or D to indicate the underlined part that needs correction in each of the following questions.

Question 26: Smartphones and laptops play an important part in our lives because they allow us stay connected with others easily.

- A. part B. because C. stay D. easily

Question 27: I am considering buying a new smartphone but my current one is starting to slow down.

- A. buying B. but C. one D. to slow down

Question 28: Since we start using the robot vacuum, cleaning the house has become much easier and more efficient.

- A. start B. cleaning C. has become D. easier

Read the following passage and mark the letter A, B, C, or D to indicate the correct word that best fits each of the numbered blanks.

Robots designed for social and therapeutic purposes can look like cute animals. For people living with memory loss, robots can remind them about things they often forget, such as helping them remember to (29) _____ medicine and eat meals, pointing out the location of household items and helping with their use. Robots can also provide companionship and entertainment, such as engaging people in games, dancing and singing. Robots can support people with memory loss to live (30) _____, and help reduce negative behavioural and psychological symptoms.

They can also support human caregivers by providing watchful eyes and helping hands. Robots do not experience stress and burnout (31) _____ there are other practical benefits, too. Robots (32) _____ look like animals can be used in place of real animals for pet therapy. A robotic cat; for instance, doesn't need food, water or (33) _____ litter box and won't scratch if it is squeezed a bit too hard.

Adapted from <https://theconversation.com/robot-revolution-why-technology-for-older-people-must-be-designed-with-care-and-respect-71082>

- Question 29: A. take B. make C. drink D. have
 Question 30: A. independence B. independently C. dependently D. depend
 Question 31: A. however B. therefore C. because D. and
 Question 32: A. which B. who C. whose D. when
 Question 33: A. another B. every C. a D. much

Read the following passage and mark the letter A, B, C or D to indicate the correct answer to each of the questions.

From retail goods to food, 3D printing technology promises to change the way we think about everyday things. It's difficult to predict what impact it will have on manufacturing but, whatever the exact effects, they are likely to be deep and long-lasting.

Also known as “*additive manufacturing*”, 3D printing refers to processes where an object is put together by layering materials under programmed commands. Objects can be of almost any shape and are produced from digital model data or other electronic data sources, such as an *Additive Manufacturing File*.

The invention of 3D printing opens the way for manufacturers to significantly reduce the production cost of their goods by eliminating many steps in the manufacturing process and the complete production process, with 3D printing, what would have initially been a series of stages of production could be cut down to a designer at one end, and the printer or “manufacturer” at the other.

Such reductions in the manufacturing process could affect both regional and international production networks, possibly resulting in reduced capital requirements, warehousing and other logistics and transportation needs. This change in production systems could potentially alter the very idea of nations' economic security. It could; for instance, destroy countries' carefully laid development plans for creating employment and investment in logistics and warehousing, regardless of economic development level. What might happen to global production networks under such an influential technology?

Adapted from <https://theconversation.com/how-3d-printing-could-disrupt-asias-manufacturing-economies-69633>

Question 34: Which of the following can be the best title for the passage?

- A. The Future of 3D Printing Technology
- B. The Impact of 3D Printing Technology
- C. The Introduction of 3D Printing Technology
- D. The Advantages of 3D Printing Technology

Question 35: The word “**their**” in paragraph 3 refers to _____.

- A. objects’
- B. processes’
- C. manufacturers’
- D. stages’

Question 36: The word “**alter**” in paragraph 4 is closest in meaning to _____.

- A. remain
- B. change
- C. keep
- D. develop

Question 37: According to paragraph 4, what is TRUE about the impact of 3D printing on global production networks?

- A. It could result in reduced international trade.
- B. It could lead to a decline in the use of digital model data.
- C. It might encourage countries to invest more in logistics and warehousing.
- D. It might have negative effects on the existing production networks.

Question 38: What can be inferred about the potential effects of 3D printing on manufacturing?

- A. The impacts of 3D printing on manufacturing are uncertain and unserious.
- B. 3D printing has the potential to greatly reduce production costs.
- C. 3D printing will not affect the traditional stages of production in manufacturing.
- D. 3D printing is primarily used for producing digital model data.

Read the following passage and mark the letter A, B, C or D to indicate the correct answer to each of the questions.

We all suffer from too little sleep from time to time, some more than others. There are many possible reasons, depending on our age, genes and sleep habits; but another possible **culprit** is using technology before going to sleep.

A 2011 survey found nine in ten people use some form of electronics in the hour before bed. This ranges from playing video games and watching television, to using light-emitting e-readers, tablets and smartphones. While these devices, especially light-emitting e-readers, seem harmless enough, the light **they** emit may affect our sleep patterns and leave us feeling tired the next day. Light exposure can directly influence sleep and the timing of sleep by acting on our body clock.

One way light exposure may impact sleep and our body clock is by affecting the production of melatonin during the night. Melatonin is a “*sleep*” hormone produced in the brain. Melatonin levels begin to increase around two hours before bed (around 9 p.m. for someone who usually goes to bed around 11 p.m.) to help to sleep. Exposure to light during the evening hours can inhibit the production of melatonin, so that melatonin production happens later in the night. Using the example above, melatonin levels may only start to increase around 10 p.m., which may delay your sleep until around midnight.

The most obvious thing to do is to reduce the use of light-emitting electronic devices prior to bedtime, or at least within the hour before sleep. For adolescents and adults who are less willing to stop using electronic devices, there are some applications that can change the amount of blue light that is emitted. It’s probably not a good idea to rely on these applications too heavily. My advice would be to buy a book or choose an e-reader that doesn’t emit light. Try to reduce the amount of light you are exposed to in the evenings. Who knows, you may even find it more relaxing!

Adapted from <https://theconversation.com/booting-up-or-powering-down-how-e-readers-affect-your-sleep-36145>

Question 39: Which of the following can be the best title for the passage?

- A. The Impact of Sleep Habits on Technology Usage
- B. The Benefits of Using E-readers Before Bedtime

C. The Impact of Technology on Sleep Patterns

D. The Reasons Why People Suffer from Lack of Sleep

Question 40: The word “**culprit**” in paragraph 1 is closest in meaning to _____.

- A. cause B. effect C. harm D. advantage

Question 41: The word “**they**” in paragraph 2 refers to _____.

- A. video games B. devices C. tablets D. smartphones

Question 42: According to paragraph 3, how does light exposure affect sleep and the body clock?

- A. It increases melatonin production, leading to better sleep.
B. It makes the production of melatonin happen earlier.
C. It prevents the production of melatonin, delaying sleep.
D. It has no effect on sleep patterns.

Question 43: The word “**inhibit**” in paragraph 3 is closest in meaning to _____.

- A. increase B. prevent C. encourage D. support

Question 44: According to paragraph 4, how can individuals reduce the impact of light emitting electronic devices on their sleep?

- A. avoid using any electronic devices before bedtime.
B. rely on applications that increase the amount of blue light.
C. use light-emitting e-readers with reduced brightness.
D. read physical books or e-readers that don't emit light.

Question 45: Which of the following can be inferred about melatonin production?

- A. Melatonin production starts increasing around midnight for most people.
B. Light exposure in the evening delays melatonin production.
C. Melatonin production is not influenced by light exposure.
D. Light-emitting smartphones are the main factor affecting melatonin production.

Mark the letter A, B, C or D to indicate the sentence that is closest in meaning to each of the following questions.

Question 46: Learning a new language through language games is very exciting.

- A. I find it uninteresting to learn a new language through language games.
B. It's interesting to learn a new language through language games.
C. Learning a new language through language games makes me feel bored.
D. Language games allow me to learn a new language easily.

Question 47: Having more RAM in the computer enables us to run multiple tasks at the same time.

- A. Having more RAM in the computer is useful for running multiple tasks at the same time.
B. Having more RAM in the computer makes it uneasy to run multiple tasks at the same time.
C. Running multiple tasks at the same time requires less RAM in the computer.
D. Running multiple tasks at the same time is one of the drawbacks of having more RAM in the computer.

Question 48: I started using my smartphone when I was at secondary school.

- A. I have used my smartphone for I was at secondary school.
B. I have used my smartphone since I was at secondary school.
C. I used my smartphone since I was at secondary school.
D. I have started using my smartphone since I studied at secondary school.

Mark the letter A, B, C or D to indicate the sentence that best combines each pair of sentences in the following questions.

Question 49: The Internet has made various educational resources available. This makes learning more convenient for students.

- A. The Internet has made various educational resources available, but it makes learning more convenient for students.

B. The Internet has made various educational resources available because of making learning more convenient for students.

C. The Internet has made various educational resources available, making learning more convenient for students.

D. The Internet has made various educational resources available despite making learning more convenient for students.

Question 50: My mom was amazed by the helpful chatbot. It helped her find the right product.

A. My mom was amazed by the helpful chatbot which helped her find the right product.

B. My mom was amazed by the helpful chatbot who helped her find the right product.

C. My mom was amazed by the helpful chatbot because of helping her find the right product.

D. My mom was amazed by the helpful chatbot; therefore, it helped her find the right product.

ĐÁP ÁN

A. LÝ THUYẾT

I. VOCABULARY

1. VOCABULARY

No.	Word	Part of speech	Pronunciation	Meaning
62.	app	(n)	/æp/	ứng dụng
63.	battery	(n)	/'bætəri/	pin
64.	button	(n)	/'bʌtn/	nút bấm
65.	chatbot	(n)	/'tʃætbot/	máy nhắn tin tự động
66.	designer	(n)	/di'zainə/	nhà thiết kế
67.	device	(n)	/di'vaɪs/	thiết bị
68.	e-reader	(n)	/i:-/'ri:də/	máy đọc sách điện tử
69.	furniture	(n)	/'fɜ:nɪʃə/	nội thất
70.	hardware	(n)	/'hɑ:dweə/	phần cứng
71.	laboratory	(n)	/lə'bɒrətəri/	phòng thí nghiệm
72.	machine	(n)	/mə'ʃi:n/	máy móc
73.	robot	(n)	/'rɒsbɒt/	người máy
74.	route	(n)	/ru:t/	tuyến đường
75.	software	(n)	/'sɒftweə/	phần mềm
76.	stain	(n)	/steɪn/	vết bẩn
77.	amaze	(v)	/ə'meɪz/	làm kinh ngạc
78.	book	(v)	/bʊk/	đặt (phòng,...)
79.	charge	(v)	/tʃɑ:ʒ/	sạc pin
80.	create	(v)	/kri'eɪt/	tạo nên
81.	display	(v)	/dɪs'pleɪ/	trưng bày
82.	enable	(v)	/ɪn'eɪbəl/	cho phép
83.	remove	(v)	/rɪ'mu:v/	dời
84.	run	(v)	/rʌn/	chạy (chương trình)
85.	driverless	(adj)	/'draɪvləs/	không người lái

2. COLLOCATIONS/ PHRASES

No.	Word	Part of speech	Pronunciation	Meaning
86.	3D printing	(np)	/,θri:'di:/ /'prɪntɪŋ/	in 3 chiều

87.	at the same time	(phrase)	/æt/ /ðə/ /seɪm/ /taɪm/	đồng thời
88.	computer memory	(np)	/kəm'pjʊ:tə/ /'meməri/	bộ nhớ của máy tính
89.	computer science	(np)	/kəm'pjʊ:tə/ /'saɪəns/	khoa học máy tính
90.	educational app	(adj, n)	/ˌedʒə'keɪʃənəl/ /æp/	ứng dụng về giáo dục
91.	express emotions	(v, n)	/ɪks'pres/ /ɪ'məʃnz/	thể hiện cảm xúc
92.	find solution to	(phrase)	/faɪnd/ /sə'lu:ʃən/ /tu:/	tìm giải pháp cho
93.	human intelligence	(np)	/'hju:mən/ /ɪn'telɪdʒəns/	trí thông minh của con người
94.	language game	(np)	/'læŋɡwɪdʒ/ /ɡeɪm/	trò chơi để học ngôn ngữ
95.	processor speed	(np)	/'prəʊsesə/ /spi:d/	tốc độ bộ xử lý
96.	random access memory (RAM)	(np)	/'rændəm/ /'ækses/ /'meməri/ (/ræm/)	bộ nhớ khả biến (máy tính)
97.	robot vacuum	(np)	/'rəʊbɒt/ /'vækju:m/	rô bốt hút bụi
98.	screen size	(np)	/skri:n/ /saɪz/	kích thước màn hình
99.	set the time	(v, n)	/set/ /ðə/ /taɪm/	cài đặt thời gian
100.	storage space	(np)	/'stɔ:ɪdʒ/ /speɪs/	dung lượng lưu trữ (máy tính)
101.	take a look at	(phrase)	/teɪk/ /ə/ /lʊk/ /æt/	xem
102.	wipe away	(vp)	/waɪp/ /ə'wei/	lau đi

3. WORD FORMATION

No.	Word	Part of speech	Pronunciation	Meaning
103.	apply	(v)	/ə'plai/	áp dụng, ứng dụng
104.	application	(n)	/ˌæplɪ'keɪʃən/	ứng dụng
105.	collect	(v)	/kə'lekt/	thu thập (thông tin)
106.	collection	(n)	/kə'leɪʃən/	sự thu thập (thông tin)
107.	communicate	(v)	/kə'mju:nikeɪt/	giao tiếp
108.	communication	(n)	/kə'mju:nɪ'keɪʃən/	giao tiếp
109.	convenience	(n)	/kən'vi:niəns/	sự thuận lợi
110.	convenient	(adj)	/kən'vi:niənt/	thuận lợi
111.	dimension	(n)	/dɪ'menʃən/	chiều (không gian)
112.	dimensional	(adj)	/daɪ'menʃənəl/	chiều (không gian)
113.	install	(v)	/ɪn'stɔ:l/	cài đặt (phần mềm, chương trình máy tính)
114.	installation	(n)	/ˌɪn.stə'leɪ.ʃən/	sự cài đặt
115.	invent	(v)	/ɪn'vent/	phát minh
116.	invention	(n)	/ɪn'venʃən/	phát minh
117.	process	(v)	/'prəʊses/	xử lý
118.	processor	(n)	/'prəʊsesə/	bộ xử lý
119.	solve	(v)	/sɒlv/	giải quyết
120.	solution	(n)	/sə'lu:ʃən/	giải pháp
121.	store	(v)	/stɔ:/	lưu trữ
122.	storage	(n)	/'stɔ:ɪdʒ/	sự lưu trữ

II. PRONUNCIATION

Trọng âm ở danh từ có 3 âm tiết

Hầu hết các danh từ trong tiếng Anh có 3 âm tiết thì trọng âm thường rơi vào âm tiết thứ nhất hoặc thứ hai.

1. TRỌNG ÂM RƠI VÀO ÂM TIẾT THỨ NHẤT

Danh từ có ba âm tiết mà trọng âm rơi vào âm tiết thứ nhất khi âm tiết thứ hai là nguyên âm yếu (/ə/, /ɪ/...).

chocolate	/ˈtʃɒkələt/
family	/ˈfæməli/
Internet	/ˈɪntə.net/

2. TRỌNG ÂM RƠI VÀO ÂM TIẾT THỨ HAI

Danh từ có ba âm tiết mà trọng âm rơi vào âm tiết thứ hai khi âm tiết thứ 3 có chứa nguyên âm yếu /ə/ hay /ɪ/ hoặc âm tiết thứ 2 chứa nguyên âm dài hoặc nguyên âm đôi.

computer	/kəmˈpjʊ:tə/
example	/ɪɡˈzɑ:mpəl/
banana	/bəˈnɑ:nə/

Các danh từ có 3 âm tiết có tận cùng là *-sion*, *-tion* thì trọng âm vào âm tiết thứ 2

invention	/ɪnˈvenʃən/
solution	/səˈlu:ʃən/
discussion	/dɪsˈkʌʃən/

III. GRAMMAR

1. THÌ HIỆN TẠI HOÀN THÀNH

a. Cách dùng

STT	Cách dùng	Ví dụ
1	Diễn tả một hành động xảy ra trong quá khứ và kết quả ở hiện tại	I have forgotten the password of my laptop. Now I cannot open it. Tôi đã quên mật khẩu của máy tính xách tay của tôi. Bây giờ tôi không thể mở nó.
2	Diễn tả hành động đã hoàn thành cho tới thời điểm hiện tại mà không đề cập tới nó xảy ra khi nào.	I have bought a new smart phone. Tôi đã mua một chiếc điện thoại thông minh mới.
3	Diễn tả một kinh nghiệm, trải nghiệm chung chung	I have never installed any educational app on my phone. Tôi chưa từng cài đặt bất kỳ ứng dụng học tập nào trên điện thoại của mình

b. Công thức

THỂ	ĐẠI TỪ	ĐỘNG TỪ
Khẳng định	I / He/ she/ it	HAS + PII/V3
	You/ we/ they	HAVE + PII/V3
Phủ định	I / He/ she/ it	HAS NOT (= HASN'T) + PII/V3
	You/ we/ they	HAVE NOT (= HAVEN'T) + PII/V3
Nghi vấn		HAS I/ HE/ SHE/ IT + PII/V3?
		HAVE YOU/ WE/ THEY + PII/V3?

c. Dấu hiệu nhận biết

Thì hiện tại hoàn thành thường đi kèm với một số trạng từ sau:

STT	Trạng từ	Ví dụ
-----	----------	-------

1	Just	I have just bought a laptop. Tôi mới mua một chiếc máy tính xách tay.
2	Ever, never	I have never used this machine. Tôi chưa bao giờ sử dụng chiếc máy này.
3	Already, yet	I have already stored my class photos in my computer. Tôi đã lưu ảnh lớp học của mình vào máy tính rồi . I haven't run this computer program yet . Tôi chưa chạy chương trình máy tính này.
4	For, since	He has used this smartphone for 3 years. Anh ấy đã sử dụng chiếc điện thoại thông minh này được 3 năm. They have used AI in education since 2020. Họ đã sử dụng trí tuệ nhân tạo trong giáo dục từ năm 2020.

2. DANH ĐỘNG TỪ (GERUNDS) VÀ ĐỘNG TỪ NGUYÊN THỂ CÓ TO (TO-INFINITIVES)

a. Danh động từ V-ing (Gerunds)

STT	Chức năng	Ví dụ
1	Làm chủ ngữ của câu	Installing this new software is difficult. Việc cài đặt phần mềm mới này rất khó khăn. Using too much smartphone is harmful to people's health. Sử dụng điện thoại thông minh quá nhiều có hại cho sức khỏe con người.
2	Đứng sau một số động từ nhất định	She likes playing games on her smartphone. Cô ấy thích chơi trò chơi trên điện thoại thông minh của mình. He avoids using too much social media. Anh ấy tránh sử dụng quá nhiều phương tiện truyền thông xã hội.

Một số động từ theo sau là V-ing

admit thừa nhận	deny từ chối	finish hoàn thành	mind phản
avoid tránh	dislike không thích	give up từ bỏ	miss bỏ lỡ
(can't) help không dừng	enjoy tận hưởng	imagine tưởng tượng	practice thực hành
(can't) stand không chịu được	fancy ưa thích	involve bao gồm, liên quan	put off trì hoãn
consider cân nhắc	feel like cảm thấy thích	keep (on) tiếp tục	risk rủi ro

b. Động từ nguyên thể to-infinitives

STT	Chức năng	Ví dụ
1	Đứng sau một số động từ nhất định	I decide to buy a new cleaning robot. Tôi quyết định mua một con robot dọn dẹp. She wants to buy a 3D-printing pen. Cô ấy muốn mua một cây bút in 3D.
2	Đứng sau một số tính từ chỉ quan điểm. Cấu trúc: It's + adj + to V....	It is convenient to study on smartphone. Thật tiện lợi khi học trên điện thoại thông minh.
3	Được dùng làm chủ ngữ trong câu	To study online via Zoom is time-saving. Học trực tuyến qua Zoom tiết kiệm thời gian.

Một số động từ theo sau là *to-infinitives*

agree đồng ý	help giúp	ask yêu cầu	refuse từ chối
choose chọn	hope hi vọng	offer đề nghị	promise hứa
fail thất bại, không làm	intend dự định	plan kế hoạch	want muốn

c. Lưu ý

Một số động từ theo sau bởi cả *V-ing* hoặc *to-infinitives* mà **nghĩa không thay đổi**; like, love, hate, prefer

B. THỰC HÀNH

I. PRONUNCIATION

Task 1. Find the word whose underlined part differs from the other three in pronunciation in each of the following questions.

- | | | | |
|-------------------------|----------------------|---------------------|---------------------|
| 1. A. communicate | B. <u>u</u> seful | C. <u>s</u> uitable | D. <u>s</u> olution |
| 2. A. laptop | B. <u>a</u> llow | C. app | D. transport |
| 3. A. <u>ma</u> chine | B. <u>ch</u> ange | C. <u>ch</u> atbot | D. <u>ch</u> arge |
| 4. A. robot | B. <u>pr</u> ocessor | C. <u>co</u> ntrol | D. programme |
| 5. A. wipe | B. <u>e</u> xpensive | C. designer | D. life |
| 6. A. <u>i</u> nvention | B. smartphone | C. software | D. light |
| 7. A. <u>I</u> nternet | B. <u>e</u> ffective | C. <u>e</u> xciting | D. remove |
| 8. A. vac <u>u</u> um | B. <u>d</u> istance | C. <u>c</u> ollect | D. <u>cr</u> eat |
| 9. A. b <u>u</u> tt | B. <u>s</u> tudy | C. <u>h</u> uman | D. <u>c</u> ustomer |
| 10. A. sp <u>a</u> ce | B. display | C. t <u>a</u> ke | D. <u>i</u> nstall |

Task 2. Find the word that differs from the other three in the position of stress in each of the following questions.

- | | | | |
|------------------------|----------------------|---------------------|------------------------|
| 1. A. equipment | B. invention | C. solution | D. <u>I</u> nternet |
| 2. A. customer | B. processor | C. <u>co</u> mputer | D. furniture |
| 3. A. <u>d</u> esigner | B. battery | C. area | D. suitable |
| 4. A. copy | B. useful | C. daily | D. <u>m</u> achine |
| 5. A. smartphone | B. laptop | C. <u>d</u> evice | D. learner |
| 6. A. distance | B. <u>i</u> nvent | C. button | D. robot |
| 7. A. hardware | B. <u>a</u> pply | C. software | D. study |
| 8. A. <u>a</u> llow | B. chatbot | C. human | D. reader |
| 9. A. powerful | B. <u>e</u> xpensive | C. various | D. actually |
| 10. A. communicate | B. available | C. convenient | D. <u>a</u> pplication |

II. VOCABULARY

Task 1. Write the words below the pictures.

smartphone

laptop

computer

e-reader

battery

robot

 <p>1. _____ battery _____</p>	 <p>2. _____ robot _____</p>	 <p>3. _____ smartphone _____</p>
---	---	--

 <p>4. _____ laptop _____</p>	 <p>5. _____ e-reader _____</p>	 <p>6. _____ computer _____</p>
--	--	--

Task 2. Choose the correct word to complete each sentence.

- He is currently enrolled in a computer science **programme** / **designer** at university.
- The **chatbot** / **distance** provides instant customer support on the company's website.
- The GPS helps me find the best **route** / **furniture** to go travelling.
- The **battery** / **processor** speed is measured in gigahertz (GHz).
- Press the button to start the **stain** / **machine**. It may take a few minutes for it to begin working.
- An **invention** / **e-reader** allows you to carry hundreds of books in a small device.
- Electric cars are a cost-effective and eco-friendly mode of **transport** / **communication**.
- The **area** / **development** of renewable energy sources is vital for a greener future.
- Computer** / **Laptop** science has revolutionised the way we process information and interact with technology.
- 3D **solution** / **printing** has opened up new possibilities for manufacturing and design.
- The more **screen size** / **computer memory** your device has, the smoother and faster it can run many applications at the same time.
- With today's technology, storage **space** / **button** is no longer a major concern for keeping files and documents.
- The **robot vacuum** / **random access memory (RAM)** efficiently cleans the house while I'm busy with other tasks.
- Language game** / **Human intelligence** is a complex and fascinating subject that scientists continue to explore.
- The invention of **smartphones** / **electricity** revolutionised communication worldwide.

Task 3. Mark the letter A, B, C or D to indicate the correct answer to each of the following questions

- Don't forget to _____ the time on your digital watch before heading out.
A. make **B. set** C. do D. take
- Virtual reality technology never fails to _____ users with its experiences.
A. amaze B. invent C. allow D. change
- Project management tools help businesses _____ and do tasks effectively.
A. copy B. express C. book **D. plan**
- Cloud storage enables users to _____ and access their files from anywhere with an internet connection.
A. communicate **B. store** C. act D. charge
- The delete function allows users to _____ unwanted files and data.
A. create B. run **C. remove** D. display
- This robot can help people _____ the dirt on the floor.
A. travel around B. walk down C. go down **D. wipe away**
- Please _____ a look at this new electric car. It has many new functions for users.
A. do B. keep **C. take** D. make
- _____ new software can improve the functions of your computer.
A. Installing B. Applying C. Booking D. Allowing

Task 4. Match each word on the left with the word that has OPPOSITE meaning on the right.

1. useful b	a. worthless
--------------------	--------------

2. expensive e	b. useless
3. valuable a	c. limited
4. available c	d. inappropriate
5. suitable d	e. cheap
6. light g	f. weak
7. powerful f	g. heavy

Task 5. Complete each sentence with one suitable word.

daily	exciting	valuable	dimensional
various	driverless	effective	educational

1. **Educational** apps have changed the way children learn and interact with technology.
2. The market offers **various** options for smartphones with different features and prices.
3. Online learning has proven to be an **effective** way for students to improve their study results.
4. Nowadays, we rely heavily on our smartphones for **daily** tasks and communication.
5. Three- **dimensional** printers have opened up new possibilities in design.
6. The development of **driverless** cars aims to develop transportation and reduce accidents.
7. Exploring chatbots can be an **exciting** experience for users.
8. The invention of the printing press was a **valuable** milestone in spreading knowledge and information.

Task 6. Complete each sentence using the correct form of the word in brackets

1. The smartphone offers a practical **solution** for organising daily tasks and appointments. (SOLVE)
2. The computer's **processor** allows for smooth and fast performance. (PROCESS)
3. **driverless** cars are becoming more common as technology advances. (DRIVER)
4. Cloud **storage** provides a convenient way to access your files from anywhere. (STORE)
5. The new medicine has proven to be **effective** in treating the common cold. (EFFECT)
6. Online shopping is **convenient** to purchase goods from the comfort of your home. (CONVENIENCE)
7. It is easier to **communicate** instantly through messaging apps. (COMMUNICATION)
8. The advancement of medical **equipment** has greatly improved patient care. (EQUIP)
9. The language learning app is **useful** for practising vocabulary and grammar. (USE)
10. The **invention** of the internet has revolutionized the way we communicate and access information. (INVENT)

III. GRAMMAR

Task 1. Mark the letter A, B, C or D to indicate the correct answer to each of the following questions.

1. Steve Jobs _____ the first iPhone in 2007.
A. has developed **B. developed** C. develops D. was developing
2. She has _____ designing a new website for the company.
A. just finished B. just finishes C. finished just D. has just finish
3. While she _____ on her laptop, the power suddenly went out.
A. works B. worked **C. was working** D. has been working
4. I _____ programming languages since I was at secondary school.
A. learned B. learn C. have learning **D. have learned**
5. At 8 p.m. yesterday, he _____ code for a new software feature.
A. writes B. is writing C. wrote **D. was writing**

6. _____ any technology conferences recently?
A. Did you attend B. Have you attending
C. Have you attended D. Are you attending
7. When I called, they _____ the latest breakthrough in robotics.
A. discuss **B. were discussing** C. has discussed D. had discussed
8. He _____ his computer to the latest operating system lately.
A. upgrades B. did upgrade **C. has upgraded** D. is upgrading
9. They _____ a tech conference in Silicon Valley last year.
A. attend B. has attended **C. attended** D. are attending
10. _____ the latest smartphone model in stores?
A. Do you see B. Did you see **C. Have you seen** D. Are you seeing

Task 2. Complete each sentence using the correct form of the verb in brackets.

1. Up to now, we _____ **have used** _____ (use) drones for various purposes.
2. While I _____ **was browsing** _____ (browse) the internet, I read an interesting article about renewable energy, was browsing
3. For the last ten years, the company _____ **has developed** _____ (develop) many devices that improve people's health.
4. Since the early 2000s, companies _____ **have introduced** _____ (introduce) many smart devices that have greatly changed our lives.
5. She _____ **discovered** _____ (discover) a feature in the software that made her task easier.
6. The first personal computer _____ **became** _____ (become) available in the 1970s, changing the way people worked.
7. Technologists _____ **have worked** _____ (work) on self-driving cars for over a decade.
8. For the last ten years, scientists _____ **have not found** _____ (not find) a complete cure for certain types of cancer yet.
9. For over a century, inventors _____ **have created** _____ (create) different models of aircraft to make international travel faster.
10. While the presentation _____ **was taking** _____ (take) place, I was taking notes on the latest advancements in AI.

Task 3. Choose the correct form of the verb to complete each sentence.

1. The scientist decided **to study / studying** the latest invention in detail.
2. The government is considering **to fund / funding** the invention due to its potential.
3. The inventor is excited about **to present / presenting** her new invention at the conference.
4. We plan **to use / using** this new device in our production system.
5. He avoids **to use / using** the new app because he thinks it's not effective.
6. He suggested **to try / trying** out this chatbox to save time.
7. They were the first **to invent / inventing** a device that can translate real-time speech.
8. She hopes **to finish / finishing** her invention before the product launch meeting.

Task 4. Complete each sentence using the correct form of the verb in brackets.

1. Researchers are aiming _____ **to create** _____ (create) more efficient solar panels.
2. They finished _____ **testing** _____ (test) the new app's features.
3. I hope _____ **to learn** _____ (learn) more about coding and programming.
4. Teachers often suggest _____ **using** _____ (use) educational apps to enhance the learning process.
5. Scientists enjoy _____ **experimenting** _____ (experiment) with new devices and technologies.
6. By not researching the market, we risk _____ **creating** _____ (create) an invention that no one needs or wants.
7. Technologists are trying _____ **to develop** _____ (develop) AI that can understand human emotions.
8. He admitted _____ **using** _____ (use) his smartphone during the meeting.

9. It is exciting _____ **to see** _____ (see) how artificial intelligence continues to develop.
 10. _____ **Using** _____ (use) social media platforms has become a common way to stay connected.

IV. READING

Task 1. Read the following passage and mark the letter A, B, C or D to indicate the correct word or phrase that best fits each of the numbered blanks.

Many people already use smart watches, smart jewellery and fitness bands to track their sleep; (1) _____, alarms that wake people (2) _____ at the suitable point in their sleep cycle and motion sensor apps that analyse sleep patterns.

New ways of tracking sleep could soon include (3) _____ a pair of pyjamas with sensors to track changes in posture, respiratory and heart rate, or hugging a robot pillow, (4) _____ algorithm creates a breathing pattern to help you fall asleep.

(5) _____ care robots have already been used in Japan to test whether they could help older people sleep better. (6) _____ to watch over residents (7) _____ night in care homes, they give staff information on how well the residents are sleeping and let them know (8) _____ anyone is not well.

Dream management technologies are in much earlier (9) _____ of development. Scientists believe that sensory stimulation technologies and devices, such as virtual reality, can be used for sleep engineering. They are aimed (10) _____ sleep quality and enhance memory.

Adapted from: <https://theconversation.com/technology-is-radically-changing-sleep-as-we-know-it-190282>

- | | | | |
|--------------------------|------------------|-----------------|----------------------|
| 1. A. for example | B. therefore | C. however | D. otherwise |
| 2. A. on | B. in | C. up | D. from |
| 3. A. create | B. to create | C. created | D. creating |
| 4. A. which | B. whose | C. who | D. that |
| 5. A. Meanwhile | B. Although | C. Not only | D. Despite |
| 6. A. Designing | B. Design | C. To design | D. Designed |
| 7. A. in | B. on | C. at | D. of |
| 8. A. to | B. if | C. for | D. or |
| 9. A. forms | B. stages | C. funds | D. houses |
| 10. A. improved | B. improving | C. to improving | D. to improve |

Task 2. Read the passage and decide whether the following statements are true (T), false (F) or not given (NG)

There are two main technologies available for drones to detect nearby objects. The first is radar, developed just before World War II, that sends out radio waves and measures their reflections from obstacles. Radar is still used as the primary system for air traffic controllers to track planes in the sky. Ships also use radar to avoid accidents at night or in foggy conditions.

Lidar, developed more recently, uses lasers instead of radio waves, and can provide extremely detailed images of nearby objects. The disadvantage is that both radar and lidar systems have been heavy and expensive. That makes them hard to fit on relatively small drones; also, heavier drones require more battery power to operate, which requires bigger (and heavier) batteries.

There is hope, though. Research in obstacle sensors and accident avoidance technology for self-driving cars has encouraged the development of small, lower- cost radar and lidar devices. Once they are small, and energy-efficient enough not to quickly exhaust drone batteries, both types of sensors could help solve the drone “see-and-avoid,” or really, because drones don’t have eyes, the “detect-and-avoid” problem.

Adapted from: <https://theconversation.com/obstacle-avoidance-the-challenge-for-drone- package-delivery-70241>

___ **T** ___ 1. Radar technology was developed before World War II.

- ___ **T** ___ 2. Radar is primarily used for tracking planes by air traffic controllers.
- ___ **F** ___ 3. Ships use lidar to avoid accidents in foggy conditions.
- ___ **F** ___ 4. Lidar uses radio waves to detect nearby objects.
- ___ **F** ___ 5. Radar and lidar systems have always been lightweight and affordable.
- ___ **NG** ___ 6. Lidar provides less detailed images than radar does.
- ___ **T** ___ 7. Heavier drones need more battery power to operate.
- ___ **NG** ___ 8. The development of radar and lidar devices for self-driving cars has discouraged research in obstacle sensors.
- ___ **T** ___ 9. Small and energy-efficient radar and lidar devices could help drones avoid obstacles.
- ___ **T** ___ 10. Drones face a “see-and-avoid” problem due to their lack of eyes.

Task 3. Read the following passage and choose the correct answer to each of the following questions.

By 2025, the number of internet users and phone users will rise to double the number today. The experts also suggest that other devices such as smartwatches and smart wearables will be sold as much as mobile phones. Technology has become so popular that the industry experts also **anticipate** that every consumer will own two mobile phones or more in the future.

Many concepts are introduced in the glimpse of how mobile phones might take their future developments. Many features that have been put out are holographic displays, flexible frames, educational tools, and most importantly, eco-friendly smartphones. All of these are related to mobile technology but they have not been **accomplished** to the last level. People expect some of the better versions from these kinds of features that come along with each mobile phone. Another topic can be the design of a mobile phone as **it** is always similar for almost all phones. We have rectangular mobile phones today. We can also expect them to come along in different shapes and sizes which are unusual today. In the future, we can expect more variety in design as well as the features inside each mobile phone.

The smartphone is a companion device that is inspired by human behaviours. It is designed to help the users connect with their mobile phones physically as well as emotionally. You can seriously notice how your mood changes when you have a good mobile phone and when your mobile phone is not working. There are many cool features that come along with many mobile phones such as the camera or some simple features such as setting reminders or alarms. Having multiple devices to help you is eliminated by having one mobile phone.

Adapted from: <https://www.linkedin.com/pulse/rapid-development-mobile-technology-quickmobiles>

- Which of the following can be the best title for the passage?

A. The Evolution of Mobile Phones	B. The Rise of Internet Users
C. Predictions about Future Mobile Phones	D. The Popularity of Smart Wearables
- The word “**anticipate**” in paragraph 1 is closest in meaning to _____.

A. ignore	B. predict	C. remind	D. work
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- According to experts, which types of devices are expected to be sold as much as mobile phones?

A. laptops	B. smart refrigerators
C. smartwatches and smart wearables	D. gaming consoles
- How many mobile phones might consumers own in the future?

A. None	B. One	C. Two or more	D. Three
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- The word “**accomplished**” in paragraph 2 is closest in meaning to _____.

A. banned	B. destroyed	C. used	D. achieved
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- What are the most important features of future mobile phones?

A. holographic displays	B. flexible frames
C. educational tools	D. eco-friendly features
- How might the design of mobile phones change in the future?

A. Mobile phones will only come in one size and shape.
--

- B. Mobile phones will look exactly the same as they do now.
 C. Mobile phones will only have eco-friendly designs.
D. Mobile phones might come in different shapes and sizes.

8. The word “**it**” in paragraph 2 refers to _____.
 A. mobile phone B. rectangular **C. design** D. topic
9. Why is a smartphone considered a companion device?
 A. Because it is a small device.
 B. Because it is used for making phone calls.
C. Because it is inspired by human behaviors.
 D. Because it is meant to replace all other electronic devices.
10. According to the passage, which of the following is NOT true?
 A. The number of people using the internet and phones will double by 2025.
 B. There might be more smartphone designs in the future.
 C. Smartphones are inspired by human behaviours.
D. Smartphones do not have an impact on people’s feeling.

V. WRITING

Task 1. Reorder the given words and phrases to form meaningful sentences.

1. communicating / distances. / over / are / in / Telephones / useful / long (8 words)
1. Telephones are useful in communicating over long distances.
2. since / was / a / television / designs / TV / invented. / changed / lot / have (10 words)
2. TV designs have changed a lot since television was invented.
3. has / areas / life. / AI / to / been / various / applied / of (9 words)
3. AI has been applied to various areas of life.
4. one / important / of / century. / AI / the / is / inventions / 21st / the / of / most (12 words)
4. AI is one of the most important inventions of the 21st century.
5. processor / can / means / faster. / your / High / speed / computer / that / run. (10 words)
5. High processor speed means that your computer can run faster.

Task 2. Write meaningful sentences based on the given clues.

1. Smartphones / allow / us / have / access / Internet / anywhere.
1. Smartphones allow us to have access to the Internet from anywhere.
2. AI / can / used / many / smartphones / collect / information / traffic.
2. AI can be used on many smartphones to collect information about traffic.
3. Since / people / invented / first / computer, they / created / many / other / inventions.
3. Since people invented the first computer, they have created many other inventions.
4. It / very / convenient / learners / learn / English / educational apps.
4. It is very convenient for learners to learn English with educational apps.
5. Vacuum cleaners / useful / us / clean / house / quickly.
5. Vacuum cleaners are useful for us to clean the house quickly.

Task 3. Write a letter (120-150 words) to a friend to tell about what you like about an invention.

Dear Hung,

I am writing to tell you about an e-reader that I have bought recently and I think you’ll love it, too.

I must admit that it’s been an awesome addition to my daily life. What I love about it is its convenience. With the capacity to store thousands of books, it’s like carrying a whole library in my pocket! Also, the features such as adjustable text size, fonts, and lightness make reading incredibly comfortable.

Moreover, the technology makes the screen look like real paper, which is easier for the eyes. The

battery life is amazing, too. It lasts several days on a single charge!

I still love the feel of physical books, but the e-reader has its significant advantages, especially for travel. Do consider getting one, it's been a great discovery for me.

Take care and look forward to your reply.

Best regards,

Hùng thân mến,

Mình viết thư này để kể cho bạn nghe về một thiết bị đọc sách điện tử mà mình mới mua gần đây và mình nghĩ bạn cũng sẽ thích nó.

Mình phải thừa nhận rằng đó là một sự bổ sung tuyệt vời cho cuộc sống hàng ngày của mình. Điều mình thích ở nó là sự tiện lợi của nó. Với khả năng lưu trữ hàng nghìn cuốn sách, mình như mang cả một thư viện trong túi! Ngoài ra, các tính năng như điều chỉnh kích thước văn bản, phóng chữ và độ sáng giúp việc đọc trở nên vô cùng thoải mái.

Hơn nữa, công nghệ này giúp màn hình giống như giấy thật, dễ nhìn hơn. Tuổi thọ pin cũng rất tuyệt vời. Nó kéo dài vài ngày trong một lần sạc!

Mình vẫn thích cảm giác đọc sách giấy, nhưng thiết bị đọc sách điện tử có những ưu điểm đáng kể, đặc biệt là dành cho du lịch. Hãy cân nhắc việc mua một thiết bị, đó là một khám phá tuyệt vời đối với mình.

Giữ gìn sức khỏe và mong nhận được hồi âm từ bạn.

Thân ái,

V. LISTENING

Task 1. Listen to a conversation about driverless cars and answer each of the questions below. You can listen to the recording TWICE.

- What is true about a driverless car?
 - It only works on specific roads.
 - It uses only cameras to navigate.
 - It is controlled by a remote operator.
 - It can move safely with little or no human input.**
- How do autonomous vehicles work?
 - They use a GPS system to navigate.
 - They use only cameras to sense their environment.
 - They use both sensors and software.**
 - They use radar only to sense their environment.
- What does the guest say about the safety of driverless cars?
 - They are not as safe as cars driven by humans.
 - They are safer because they don't get tired or distracted.**
 - They are unsafe because of their reliance on technology.
 - They can only be safe if they are driven by trained people.
- What is the potential impact of driverless cars?
 - lead drivers to have fewer job opportunities
 - decrease traffic congestion and emissions**
 - cause more traffic accidents
 - reduce mobility for the elderly or disabled
- When can we expect widespread use of driverless cars?
 - They are already in widespread use.
 - They will never be in widespread use.
 - They will be a few years away from widespread use.**
 - They will be widely used in a year.

SCRIPT:

Host: Hello, listeners. Welcome back to “Tech Talk Time.” I’m your host, James, and today we’re talking about the future of transportation: driverless cars. First, let’s hear from our guest from the Innovation Centre. What are driverless cars, and how are they going to change our lives?

Guest: Hi, James. An autonomous vehicle, or driverless car, is a vehicle that is capable of sensing its environment and moving safely with little or no human input.

Host: Sounds like science fiction, doesn’t it?

Guest: It might seem so, but these technologies are already in use today to some extent.

Host: Incredible! So, how do these cars work?

Guest: Well, they use a combination of sensors and software. The sensors - which could include cameras, radar, and lidar - collect data about the environment, which is then interpreted by the software to navigate and control the vehicle.

Host: Fascinating! But are they safe?

Guest: Safety is a major focus in the development of autonomous vehicles. Many experts believe that these vehicles will be safer than human drivers. They don’t get tired or distracted, which can significantly reduce accidents. However, there are still challenges to solve, such as how these systems react in unpredictable situations.

Host: That’s a good point. How could these cars affect society?

Guest: There are numerous potential impacts. For instance, driverless cars could significantly reduce traffic jams and emissions. They could also help people who can’t drive get around more easily, like the elderly or disabled.

Host: Fascinating! Lastly, when can we expect these cars on our roads?

Guest: Some areas have already permitted autonomous cars for testing, but we may still be a few years away from widespread use.

Host: I think that’s a great point to end on. Thank you for your time

Task 2. Listen to a conversation about Artificial Intelligence (AI) and fill in each blank with one suitable word. You can listen to the recording TWICE.

Definition of AI	<p>- computer (1) systems or machines, performing tasks that usually require human (2) intelligence</p> <p>- tasks include learning, (3) problem-solving, language understanding and so on.</p>
Benefits of AI	<p>- increase (4) productivity and efficiency, working both day and night without (5) breaks</p> <p>- (6) analyse large amounts of data quickly and (7) accurately, helping in areas such as healthcare and climate science</p>
Drawbacks of AI	<p>- cause job displacement, potentially (8) replacing human workers in some industries</p> <p>- lead to the issue of (9) security. If AI systems are hacked, they could be used for bad purposes.</p> <p>- might make decisions that humans don’t agree with or understand if its systems are not properly designed or (10) controlled.</p>

SCRIPT:

Host: Welcome back to our Future Tech series. Today, we’re discussing the pros and cons of artificial intelligence, or AI. Joining us is Dr. Emily Grant.

Dr. Grant: Thank you for having me.

- Host: It's a pleasure, Dr. Grant. Can we start with a brief explanation of what AI is?
- Dr. Grant: Certainly. AI refers to computer systems or machines that are capable of performing tasks that usually require human intelligence. These tasks might include learning, reasoning, problem-solving, perception, and language understanding.
- Host: That's fascinating! Could you say the benefits of AI?
- Dr. Grant: Of course. There are numerous benefits of AI. For one, it can increase productivity and efficiency. It can work both day and night without breaks and doesn't get tired or bored. AI is also great for analysing large amounts of data quickly and accurately. This could have applications in areas such as healthcare to help to diagnose diseases, or in climate science to predict weather patterns.
- Host: Those are really impressive benefits. But what about the drawbacks?
- Dr. Grant: Well, like any technology, AI has its downsides. One major concern is job displacement. As AI becomes more capable, it could potentially replace human workers in certain industries. There's also the question of security. If AI systems are hacked, they could be used for bad purposes. And, lastly, there's a risk if AI systems are not properly designed or controlled, they might make decisions that humans don't agree with or understand.
- Host: AI has both positive and negative sides, indeed. So what's the future of AI looking like?
- Dr. Grant: The future of AI is uncertain. We'll likely see it becoming even more popular in our lives, but we'll also have to deal with the challenges it presents. As with any technology, the key will be to balance the benefits with the potential risks.
- Host: Well, there you have it. Thank you for your time, Dr. Grant.
- Dr. Grant: You're welcome, it was great to be here!

VII. SPEAKING

Task 1. Answer the questions.

1. Do you have any smart devices in your house?

Absolutely, we have smart devices at home. We have a smart TV that connects to the Internet and shows our favourite shows. We also have a smart virtual assistant, which plays music, sets reminders, and even answers our questions. In addition, we use smart lightning that turns on and off automatically, helping us save energy. It's cool how these devices make life more convenient and entertaining!

Chắc chắn rồi, nhà chúng tôi có các thiết bị thông minh. Chúng tôi có một TV thông minh kết nối với internet và chiếu các chương trình yêu thích của chúng tôi. Chúng tôi cũng có một trợ lý ảo để phát nhạc, đặt lời nhắc và thậm chí trả lời các câu hỏi của chúng tôi. Ngoài ra, chúng tôi sử dụng đèn chiếu sáng thông minh tự động bật và tắt, giúp chúng tôi tiết kiệm năng lượng. Thật tuyệt khi những thiết bị này làm cho cuộc sống trở nên tiện lợi và thú vị hơn!

2. Do you use any devices to help with your study?

Yes, I do use devices to help with my studies. I mainly use my laptop and smartphone. The laptop helps me with online learning, especially when I have to take online classes. I can attend classes, research topics, write assignments, and even work with classmates on projects. My smartphone is useful with educational apps that assist with language learning, maths problems, and quick information searching. These devices are important to my study and help me get better learning experience.

Có, tôi sử dụng các thiết bị để hỗ trợ việc học của mình. Tôi chủ yếu sử dụng máy tính xách tay và điện thoại thông minh. Máy tính xách tay giúp tôi học trực tuyến, đặc biệt là khi tôi phải tham gia các lớp học trực tuyến. Tôi có thể tham dự các lớp học, nghiên cứu về chủ đề, làm bài tập và thậm chí hợp tác với các bạn cùng lớp trong các dự án. Điện thoại thông minh của tôi thì hữu ích với các ứng dụng giáo dục hỗ trợ học ngôn ngữ, giải toán và tìm kiếm thông tin nhanh chóng. Những thiết bị này rất quan trọng đối với việc học của tôi và giúp tôi có được trải nghiệm học tập tốt hơn.

Task 2. Describe your favourite technology invention.

The smartphone is my favourite invention and it has really changed how I live every day. It's not just for phoning – it uses a bunch of cool stuff. It's like a little machine that helps me talk to people everywhere, go on the internet a lot, and learn so much. I can take pictures and show them to everyone, and I can also use it for other things like knowing about my health, money, new languages, and even cooking. The smartphone is really amazing because it's like having a helper. It can remind me about things, tell me where to go, and help me make plans. But that's not all – it's also a place where I can be creative. I can draw things, write stories, make music, and even make movies on it. Most importantly, it's super handy. In this time when things are getting better and better, the smartphone is like a key that opens up a whole new world.

Điện thoại thông minh là phát minh yêu thích của tôi và nó đã thực sự thay đổi cách tôi sống hàng ngày. Nó không chỉ để gọi điện thoại – nó còn sử dụng rất nhiều thứ hay ho. Nó giống như một cỗ máy nhỏ giúp tôi nói chuyện với mọi người ở khắp mọi nơi, lên mạng và học hỏi được rất nhiều điều. Tôi có thể chụp ảnh và cho mọi người xem, đồng thời tôi cũng có thể sử dụng nó cho những việc khác như biết về sức khỏe, tiền bạc, ngôn ngữ mới và thậm chí cả nấu ăn. Chiếc điện thoại thông minh thực sự tuyệt vời vì nó giống như có một người trợ giúp. Nó có thể nhắc nhở tôi về mọi thứ, cho tôi biết nơi cần đến và giúp tôi lập kế hoạch. Nhưng đó chưa phải là tất cả - đó còn là nơi tôi có thể sáng tạo. Tôi có thể vẽ mọi thứ, viết truyện, sáng tác nhạc và thậm chí dùng nó để làm phim. Quan trọng nhất, nó cực kỳ tiện dụng. Trong thời điểm mọi thứ ngày càng tốt hơn, điện thoại thông minh giống như chiếc chìa khóa mở ra một thế giới.

C. BÀI KIỂM TRA

Mark the letter A, B, C or D to indicate the word whose underlined part differs from the other three in pronunciation in each of the following questions.

- Question 1: A. enable B. invent C. remove D. effective
 Question 2: A. installed B. allowed C. displayed D. expressed

Mark the letter A, B, C or D to indicate the word that differs from the other three in the position of the primary stress in each of the following questions.

- Question 3: A. software B. amaze C. collect D. control
 Question 4: A. convenient B. equipment C. processor D. emotion

Mark the letter A, B, C or D to indicate the correct answer to each of the following questions.

- Question 5: The robot vacuum has a button to _____ the time for cleaning.
 A. install B. make C. put D. set
- Question 6: _____ robots to perform daily tasks makes our lives become more convenient.
 A. Using B. To using C. To used D. Use
- Question 7: In the laboratory, scientists collect data and do _____ using advanced equipment.
 A. programmes B. experiments C. software D. devices
- Question 8: It's necessary _____ factors like the screen size and the battery before you decide _____ a computer.
 A. to consider/ buying B. considering/ buying
 C. to consider/ to buy D. considering/ to buy
- Question 9: Over the past few years, the invention of the Internet _____ the way we communicate with others.
 A. has completely changed B. completely has changed
 C. completely changes D. will completely change
- Question 10: The e-reader is an effective device for book lovers because it enables them _____ thousands of books on it.

- A. to storing **B. to store** C. storing D. store
- Question 11: I enjoy _____ language games on the Internet to improve my language skills.
A. to play B. play C. to playing **D. playing**
- Question 12: She is an excellent designer, _____ is able to create various computer programmes.
A. who B. which C. when D. that
- Question 13: With the invention of 3D printing, we can now create physical objects with different designs and materials _____.
A. effect B. effective **C. effectively** D. ineffectively
- Question 14: In the field of computer science, _____ significant developments, there is still much more to discover.
A. due **B. despite** C. because of D. in spite
- Question 15: Thanks to the Internet, we can find solutions _____ various problems with just a few clicks.
A. on B. for C. of **D. to**
- Question 16: Since this robot _____, it _____ an essential device for daily tasks, and I can't imagine life without it.
A. invented/ became B. invented/ has become
C. was invented/ has become D. was invented/ became
- Question 17: The high _____ speed of this computer allows it to run more quickly.
A. process **B. processor** C. proceed D. processing
- Question 18: I _____ installing new software on my laptop.
A. have just finished B. just have finished C. just finished D. just finish
- Question 19: It is very useful and convenient _____ with educational apps on my phone because I can study anytime and anywhere.
A. to learning B. learning **C. to learn** D. learn

Mark the letter A, B, C or D to indicate the sentence that best completes each of the following exchanges.

- Question 20: Two friends are talking about a new educational app.
Van: "Can you show me how to use this new educational app? People say that it's really useful for learning languages."
Hoa: "_____, I'd be happy to show you how it works."
A. Certainly B. Not sure C. Maybe D. Of course not
- Question 21: Two friends are talking about a robot vacuum.
Minh: "_____ a reliable robot vacuum for cleaning my apartment?"
Phong: "Sure! I've been using the EF Robot Vacuum, and it's been very effective."
A. Can you tell me know B. Can you advise
C. Can you please recommend D. Can you show me know

Mark the letter A, B, C, D to indicate the word(s) CLOSEST in meaning to the underlined word(s) in each of the following questions.

- Question 22: Many inventions, like robots and AI, have amazed us with their great features.
A. surprised B. affected C. bored D. enabled
- Question 23: The invention of this new medical device will help doctors to diagnose diseases more accurately and efficiently.
A. laboratory B. furniture C. experiment **D. equipment**

Mark the letter A, B, C, D to indicate the word(s) OPPOSITE in meaning to the underlined word(s) in each of the following questions.

- Question 24: Online shopping is a convenient way of shopping, enabling people to order products from the comfort of their homes.

A. useful B. unsuitable C. available D. invaluable

Question 25: The latest mobile device has impressive features that **enable** users to do multiple tasks at the same time.

A. prevent B. refuse C. allow D. approve

Mark the letter A, B, C or D to indicate the underlined part that needs correction in each of the following questions.

Question 26: Smartphones and laptops play an important part in our lives because they allow us stay connected with others easily.

A. part B. because C. stay D. easily

Question 27: I am considering buying a new smartphone but my current one is starting to slow down.

A. buying B. but C. one D. to slow down

Question 28: Since we start using the robot vacuum, cleaning the house has become much easier and more efficient.

A. start B. cleaning C. has become D. easier

Read the following passage and mark the letter A, B, C, or D to indicate the correct word that best fits each of the numbered blanks.

Robots designed for social and therapeutic purposes can look like cute animals. For people living with memory loss, robots can remind them about things they often forget, such as helping them remember to (29) _____ medicine and eat meals, pointing out the location of household items and helping with their use. Robots can also provide companionship and entertainment, such as engaging people in games, dancing and singing. Robots can support people with memory loss to live (30) _____, and help reduce negative behavioural and psychological symptoms.

They can also support human caregivers by providing watchful eyes and helping hands. Robots do not experience stress and burnout (31) _____ there are other practical benefits, too. Robots (32) _____ look like animals can be used in place of real animals for pet therapy. A robotic cat, for instance, doesn't need food, water or (33) _____ litter box and won't scratch if it is squeezed a bit too hard.

Adapted from <https://theconversation.com/robot-revolution-why-technology-for-older-people-must-be-designed-with-care-and-respect-71082>

Question 29: A. take B. make C. drink D. have
 Question 30: A. independence B. independently C. dependently D. depend
 Question 31: A. however B. therefore C. because D. and
 Question 32: A. which B. who C. whose D. when
 Question 33: A. another B. every C. a D. much

Read the following passage and mark the letter A, B, C or D to indicate the correct answer to each of the questions.

From retail goods to food, 3D printing technology promises to change the way we think about everyday things. It's difficult to predict what impact it will have on manufacturing but, whatever the exact effects, they are likely to be deep and long-lasting.

Also known as “*additive manufacturing*”, 3D printing refers to processes where an object is put together by layering materials under programmed commands. Objects can be of almost any shape and are produced from digital model data or other electronic data sources, such as an *Additive Manufacturing File*.

The invention of 3D printing opens the way for manufacturers to significantly reduce the production cost of **their** goods by eliminating many steps in the manufacturing process and the complete production process, with 3D printing, what would have initially been a series of stages of production could be cut down to a designer at one end, and the printer or “manufacturer” at the other.

Such reductions in the manufacturing process could affect both regional and international production networks, possibly resulting in reduced capital requirements, warehousing and other logistics and transportation needs. This change in production systems could potentially **alter** the very idea of nations' economic security. It could; for instance, destroy countries' carefully laid development plans for creating employment and investment in logistics and warehousing, regardless of economic development level. What might happen to global production networks under such an influential technology?

Adapted from <https://theconversation.com/how-3d-printing-could-disrupt-asias-manufacturing-economies-69633>

Question 34: Which of the following can be the best title for the passage?

- A. The Future of 3D Printing Technology
- B. The Impact of 3D Printing Technology**
- C. The Introduction of 3D Printing Technology
- D. The Advantages of 3D Printing Technology

Question 35: The word "**their**" in paragraph 3 refers to _____.

- A. objects'
- B. processes'
- C. manufacturers'**
- D. stages'

Question 36: The word "**alter**" in paragraph 4 is closest in meaning to _____.

- A. remain
- B. change**
- C. keep
- D. develop

Question 37: According to paragraph 4, what is TRUE about the impact of 3D printing on global production networks?

- A. It could result in reduced international trade.
- B. It could lead to a decline in the use of digital model data.
- C. It might encourage countries to invest more in logistics and warehousing.
- D. It might have negative effects on the existing production networks.**

Question 38: What can be inferred about the potential effects of 3D printing on manufacturing?

- A. The impacts of 3D printing on manufacturing are uncertain and unserious.
- B. 3D printing has the potential to greatly reduce production costs.**
- C. 3D printing will not affect the traditional stages of production in manufacturing.
- D. 3D printing is primarily used for producing digital model data.

Read the following passage and mark the letter A, B, C or D to indicate the correct answer to each of the questions.

We all suffer from too little sleep from time to time, some more than others. There are many possible reasons, depending on our age, genes and sleep habits; but another possible **culprit** is using technology before going to sleep.

A 2011 survey found nine in ten people use some form of electronics in the hour before bed. This ranges from playing video games and watching television, to using light-emitting e-readers, tablets and smartphones. While these devices, especially light-emitting e-readers, seem harmless enough, the light **they** emit may affect our sleep patterns and leave us feeling tired the next day. Light exposure can directly influence sleep and the timing of sleep by acting on our body clock.

One way light exposure may impact sleep and our body clock is by affecting the production of melatonin during the night. Melatonin is a "*sleep*" hormone produced in the brain. Melatonin levels begin to increase around two hours before bed (around 9 p.m. for someone who usually goes to bed around 11 p.m.) to help to sleep. Exposure to light during the evening hours can inhibit the production of melatonin, so that melatonin production happens later in the night. Using the example above, melatonin levels may only start to increase around 10 p.m., which may delay your sleep until around midnight.

The most obvious thing to do is to reduce the use of light-emitting electronic devices prior to bedtime, or at least within the hour before sleep. For adolescents and adults who are less willing to stop using electronic devices, there are some applications that can change the amount of blue light that is emitted. It's probably not a good idea to rely on these applications too heavily. My advice would be to

buy a book or choose an e-reader that doesn't emit light. Try to reduce the amount of light you are exposed to in the evenings. Who knows, you may even find it more relaxing!

Adapted from <https://theconversation.com/booting-up-or-powering-down-how-e-readers-affect-your-sleep-36145>

Question 39: Which of the following can be the best title for the passage?

- A. The Impact of Sleep Habits on Technology Usage
- B. The Benefits of Using E-readers Before Bedtime
- C. The Impact of Technology on Sleep Patterns**
- D. The Reasons Why People Suffer from Lack of Sleep

Question 40: The word “**culprit**” in paragraph 1 is closest in meaning to _____.

- A. cause**
- B. effect
- C. harm
- D. advantage

Question 41: The word “**they**” in paragraph 2 refers to _____.

- A. video games
- B. devices**
- C. tablets
- D. smartphones

Question 42: According to paragraph 3, how does light exposure affect sleep and the body clock?

- A. It increases melatonin production, leading to better sleep.
- B. It makes the production of melatonin happen earlier.
- C. It prevents the production of melatonin, delaying sleep.**
- D. It has no effect on sleep patterns.

Question 43: The word “**inhibit**” in paragraph 3 is closest in meaning to _____.

- A. increase
- B. prevent**
- C. encourage
- D. support

Question 44: According to paragraph 4, how can individuals reduce the impact of light emitting electronic devices on their sleep?

- A. avoid using any electronic devices before bedtime.
- B. rely on applications that increase the amount of blue light.
- C. use light-emitting e-readers with reduced brightness.
- D. read physical books or e-readers that don't emit light.**

Question 45: Which of the following can be inferred about melatonin production?

- A. Melatonin production starts increasing around midnight for most people.
- B. Light exposure in the evening delays melatonin production.**
- C. Melatonin production is not influenced by light exposure.
- D. Light-emitting smartphones are the main factor affecting melatonin production.

Mark the letter A, B, C or D to indicate the sentence that is closest in meaning to each of the following questions.

Question 46: Learning a new language through language games is very exciting.

- A. I find it uninteresting to learn a new language through language games.
- B. It's interesting to learn a new language through language games.**
- C. Learning a new language through language games makes me feel bored.
- D. Language games allow me to learn a new language easily.

Question 47: Having more RAM in the computer enables us to run multiple tasks at the same time.

- A. Having more RAM in the computer is useful for running multiple tasks at the same time.**
- B. Having more RAM in the computer makes it uneasy to run multiple tasks at the same time.
- C. Running multiple tasks at the same time requires less RAM in the computer.
- D. Running multiple tasks at the same time is one of the drawbacks of having more RAM in the computer.

Question 48: I started using my smartphone when I was at secondary school.

- A. I have used my smartphone for I was at secondary school.
- B. I have used my smartphone since I was at secondary school.**
- C. I used my smartphone since I was at secondary school.
- D. I have started using my smartphone since I studied at secondary school.

Mark the letter A, B, C or D to indicate the sentence that best combines each pair of sentences in the following questions.

Question 49: The Internet has made various educational resources available. This makes learning more convenient for students.

A. The Internet has made various educational resources available, but it makes learning more convenient for students.

B. The Internet has made various educational resources available because of making learning more convenient for students.

C. The Internet has made various educational resources available, making learning more convenient for students.

D. The Internet has made various educational resources available despite making learning more convenient for students.

Question 50: My mom was amazed by the helpful chatbot. It helped her find the right product.

A. My mom was amazed by the helpful chatbot which helped her find the right product.

B. My mom was amazed by the helpful chatbot who helped her find the right product.

C. My mom was amazed by the helpful chatbot because of helping her find the right product.

D. My mom was amazed by the helpful chatbot; therefore, it helped her find the right product.