



Concours toutes Options
Epreuve d'Anglais

الجمهورية التونسية
وزارة التعليم العالي والبحث العلمي
والإشراف على التعليم

للمنظرات الرقمية للدخول إلى
مراحل تكوين المهندسين دورة 2025

Date : 30 Mai 2025

Heure : 11H

Durée : 2 H



THE TEXT

China is revolutionizing firefighting with drone technology

1- Where firefighting is concerned, China is **setting the trail ablaze** with its newest drone technology. From high-rise fires to wildfires spreading across the most inaccessible landscapes, drones are the **unsung heroes** of modern firefighting. How do these flying marvels change the game and save lives?

2- For China's burgeoning cities and sprawling forests, firefighters face particular challenges. Traditional firefighting methods, ladder trucks, and ground crews can't always reach the flames on the 30th floor of a skyscraper or deep in a forest. Enter firefighting drones with cutting-edge technology and a mission to reach places humans can't.

3- Leading this transformation are drones like the EHang 216F, which is manned and has eight arms carrying heavy-duty nozzles that can spray foam or any other extinguisher over 1,000 feet above the ground. It's designed to navigate the tightest of city corridors and drop fire suppression right in the heart of high-rise emergencies. Another highlight is the Aerial Scooter Drone, which is reportedly capable of reaching 200 meters in altitude within an amazing 30 seconds and dousing fire, covering an area of around 200 m² with dry powder bombs.

4- The reconnaissance drones developed by companies like the XCMG Group, which use AI-driven systems to map fire zones in real time, are equally impressive. These drones send vital information back to teams on the ground, where it's used to expedite decision-making. This enables the detection of heat sources and structural weaknesses, greatly improving safety and efficiency during firefighting operations. **Not only** are these drones fast, but they're also smart: reconnaissance drones survey a scene, provide real-time data, and chart safe evacuation routes for ground crews.

5- The biggest advantage of one of the drones is their speed. A fire can get out of hand in seconds, and every second counts. Conventional firefighting usually consists of arriving on site, preparing equipment, fighting traffic en route, and strategizing at the incident scene. Drones, however, are airborne within moments, offering real-time views of the fire behaviour.

6- That is just a lifesaver with the rapid deployment, especially in urban areas where narrow streets or towering buildings impede access. Drones can fly directly to the source of the flames, reaching **spots** that otherwise would be impossible. Drones also minimize the risks to firefighters. By **surveilling** and delivering fire suppression materials from the air, they reduce human exposure to dangerous environments.

7- Chinese drone technology is not just about fighting fire but doing so with imagination and precision. For example, the SIOU F07 Drone is designed to address high-rise emergencies by smashing through

tempered glass and releasing dry powder into buildings to choke the fire out from the inside with no risk of injury to fire personnel. Another type was the Fire Helicopter, which had six rotors and could fly adroitly down a narrow city or dense forest canopy passages with ease. Of course, it is not all about the hardware; these AI-powered drones would study fire behaviour, track its spread, and predict where the fire may be going. They would communicate with the teams on the ground to make every move strategic and effective.

8- Chinese drones are not just theoretical ideas; they have been used in the field. A dramatic video captured three drones working harmoniously to extinguish a multi-storey building fire in Shaanxi province. The drones deployed suppressants directly to the flames while capturing critical data for the ground teams. During wildfires in Chongqing, drones proved indispensable. They fought fires, performed as sky eyes to coordinate the ground operation of firefighting work, and even carried materials to supply the fighting group on the ground.

9- Despite their success, firefighting drones do have limitations. The restricted battery life limits flight time, and adverse weather, like strong winds or heavy smoke, may not permit operations. There are also regulatory barriers to consider: the use of drones is highly restricted within restricted airspaces. The other challenge is people's perception. Safety and privacy issues dampen their acceptance in populated areas, which may be extremely beneficial. China has set the global standard in drone technology. The speedy, smart, and hardy drones might change firefighting worldwide.

10- Think about it: a fire in some high-rise skyscraper- a future where drones swoop in, one by one, fighting the fire, beating it out floor by floor in a coordinated fashion. Equipped with thermal imaging, the drones head into the wilderness chore of fighting a wildfire with real-time communication on their autonomous route. The fact that China warmly embraces firefighting drones speaks volumes: safety, novelty, and tech at their finest. As such, flying heroes continue in their development phase, promising firefighting will be much safer, faster, and more effective. This proves that the best way of fighting fire is sometimes through the skies.

January 10, 2025

Hypefresh

IMPORTANT :

- Il sera tenu compte de la présentation, (l'écriture au crayon n'étant pas permise)



PART ONE: Reading comprehension

Question 1

Fill in the chart with information from the text:

Name of the drone	Parts and accessories	Intervention area
EHang 216F		
.....	xxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxx	- High rise emergencies
Fire helicopter		

Question 2

These statements are false. Provide the right justifications from the article:

a- All the drones mentioned in the text are operated remotely without a pilot on board.

.....

b- The writer thinks that the firefighting drones have already reached their final progress stage.

.....

Question 3

Fill in the blanks with words or phrases from the text:

It has been proved through two case studies that joint efforts between drones and firefighters are efficient. In the first, the technological devices managed to spread straight on blazes in a edifice. In the second, the drone and the fireman worked and effectively which helped the former to act like and it allowed the latter on the ground to see the entire scope of fire from above.

Question 4

Answer the following question:

What constraints do firefighting drones face?

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Question 5

What do the expressions (written in bold in the text) mean? Circle the right option:

a- **setting the trail ablaze** (§1):

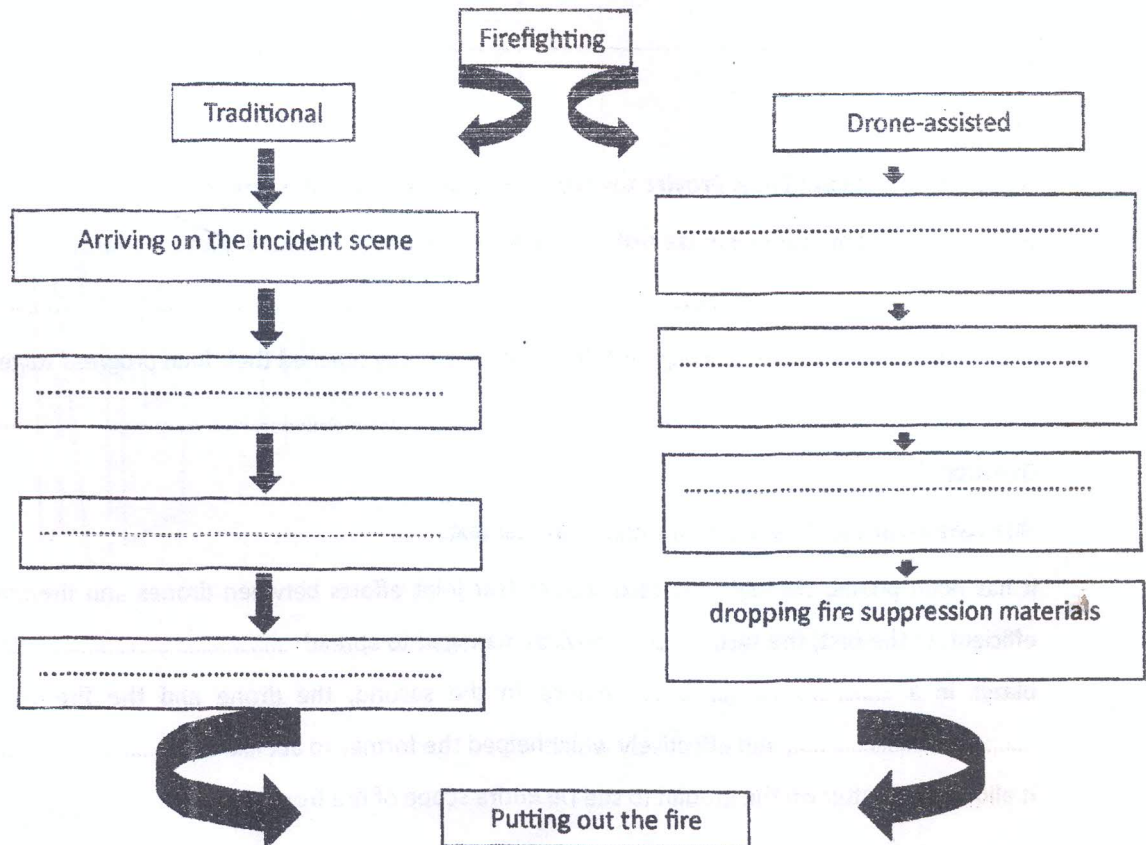
- China is at the forefront in the drone technology
- China is at the crossroads with the drone technology
- China is at a standstill with the drone technology

b- **speaks volumes** (§10):

- talks at an excessive rate with excessive wordiness
- reveals a great deal of information without the use of words
- speaks loudly enough to be clearly heard

Question 6

Complete the flow chart below with information from the text:



Question 7

Pick out from the text a verb and a phrasal verb having the meaning of:

fight fire: - -

Question 8

Find in the text words having approximately the same meaning as the following:

a- to speed up (§4):

b- in a quick and skilful way (§7):

c- lessen (§9):

Question 9

What do the underlined words in the text refer to:

a- it (§4):

b- so (§7):

c- which (§9):

PART TWO: Language

Question 10

Put the bracketed verbs in the right tense:

For long, consumers (wield) their power to send messages to brands.

Now, more than ever, they (want) to buy brands whose values align with

their own, and boycott others to protest. This phenomenon (recently/cause)

..... harm to brands all across the world after the Middle-East war (break)

..... out. One such brand caught in the crossfire is McDonald's, which in February

stated that the company (miss) its quarterly targets for the first time in

four years, with sales being most impacted in the Middle East.

Question 11

Put the bracketed words in the right form:

Social media has played an important role in creating consumers' greater (aware)

..... of their collective influence. With a (combine)

effort, consumers see boycotts as a powerful way to express their (satisfy)

and push for better corporate practices. In doing so, consumers aim (achieve)

several outcomes, including immediate acknowledgement of their concerns about the brand, changes

in company policies, and (broad) industry improvements.

Question 12

Find synonyms of the bracketed words. You are given the first two letters of the word. The number of dots corresponds to the number of the missing letters:

Chinese startup DeepSeek's launch of its la (= newest) AI models, which it says are on a par or better than industry-leading models in the United States at a fraction of the cost, is th (= menacing) to upset the technology world order. The company has attracted attention in global AI circles after writing in a paper last month that the training of DeepSeek-V3 re (= needed) less than \$6 million worth of computing power from Nvidia H800 chips. DeepSeek's AI Assistant, powered by DeepSeek-V3, has overtaken ri . . . (= competitor) ChatGPT to become the top-ra . . . (=evaluated) free application available on Apple's App Store in the United States.

Question 13

Find antonyms of the bracketed words. You are given the first two letters of the word. The number of dots corresponds to the number of the missing letters:

Mention the word "globalization", and you are likely to get a reaction. Globalization, the creation of a new world economic system dominated by huge cooperations and the "G8" nations, is an idea that has its fervent supporters and its bi (= sweet) opponents. For its opponents, globalization is seen as a system designed to impose the American economic model on the world, for the sole be (=loss) of the USA and a few other we (= poor) countries. For its supporters, globalization is the way fo (= backward) to a better world where everyone will ul (= initially) be better off than they are today.

Question 14

Change the underlined phrases using compound adjectives:

A recent UK report backed by the government (..... report) on AI safety said that tech companies still rely heavily on models that consume energy (..... models) and especially fossil fuel. The report suggested investing in new power sources to supply electricity whose carbon is low (..... electricity) in a project lasting five years (..... project) allowing AI expansion while monitoring its environmental impact.

Question 15

Express differently starting as given (keep the same meaning):

a- May be Peter forgot that we had changed the time of the meeting.

Peter might that we had changed the time of the meeting.

b- They say he is one of the most powerful businessmen in Europe.

He is one of the most powerful businessmen in Europe.

c- They asked us how we had got on with the new device.

"?", they asked.

d- Do you ever regret not having gone to a foreign university?

Do you ever wish you to a foreign university.

e- We have managed to account for all the papers.

We have succeeded for all the papers.

f- Peace talks were not held by the appropriate parties to end the war more rapidly.

Had, the war would have ended more rapidly.

PART THREE: Writing

Question 16

Fill in the blanks with the appropriate linkers from the list below: (there are 2 extra words)

despite- though- yet- according to- furthermore- such as- as well as

Several members of the G7, which represents the biggest economies in the developed world, have already come close to ending the use of coal. Coal makes up less than 6% of the electricity mix in the UK, Italy and Canada, and almost nothing in France., it still comprises 32% of Japan's electricity mix, 27% of Germany's and 16% of the US', a recent report. the caveats, several climate policy experts welcomed the announcement, describing it as a breakthrough after years of roadblocks on the issue. The G7 typically leads on global climate policy. The group's decisions often influence the wider G20, which includes other big emitters, major fossil fuel producers, Saudi Arabia and Russia.

Question 17

In each line there is one wrong word.

For each line underline the wrong word and write the correct word in the space provided.

- TikTok's popularity skyrocketed in 2020 thanks in large part for 1-
- its unique algorithm, who prioritizes showing users entertaining 2-
- content whether or not it's from an account they follow. 3-
- Users flocked to the app, as do creators, who found it far 4-
- easy to quickly build an audience and discover almost overnight success. 5-

Question 18 (Essay)

To what extent can Artificial Intelligence be beneficial to students?

Write a 15-line essay where you discuss the question using solid arguments.

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SUGGESTED ANSWERS



PART ONE: Reading comprehension

Question 1

Fill in the chart with information from the text:

(0,5 x 8)

Name of the drone	Parts and accessories	Intervention area
EHang 216F	- <i>eight arms</i> - <i>(heavy-duty) nozzles</i>	- <i>(the tightest) of city corridors</i> - <i>(the heart of) high-rise emergencies or 4000 feet above the ground</i>
<i>SKXF07 or the Aerial Scooter Drone</i>	xxxxxxxxxxxxxxxxxxxxxxxxxxxx	- High rise emergencies
Fire helicopter	<i>Six rotors</i>	- <i>narrow city / tight spaces</i> - <i>dense forest / canopy passages</i>

Question 2

These statements are false. Provide the right justifications from the article:

a- All the drones mentioned in the text are operated remotely without a pilot on board.

(§3 line1) Leading this transformation are drones like *the EHang 216F, which is manned*

b- The writer thinks that the firefighting drones have already reached their final progress stage.

(§10 line 5) *Flying heroes continue in their development phase / promising firefighting will be much safer, faster, and more effective.* *and/or*

Question 3

Fill in the blanks with words or phrases from the text:

It has been proved through two case studies that joint efforts between drones and firefighters are efficient. In the first, the technological devices managed to spread *suppressants / suppression / extinguishers materials / dry powder (bombs) fire suppression* straight on blazes in a *high rise / multi-storey / skyscraper / towering* edifice. In the second, the drone and the fireman worked *harmoniously* and effectively which helped the former to act like *sky eyes* and it allowed the latter on the ground to see the entire scope of fire from above.

Question 4

Answer the following question:

What constraints do firefighting drones face?

- *Restricted battery life / limited fight time*
 - *Adverse weather (strong wind, heavy smoke)*
 - *Regulatory barriers / Restricted air spaces*
 - *People's perception (towards safety and privacy) / safety and privacy concerns*
- Public perception*

Question 5

What do the expressions (written in bold in the text) mean? Circle the right option:

a- setting the trail ablaze (§1):

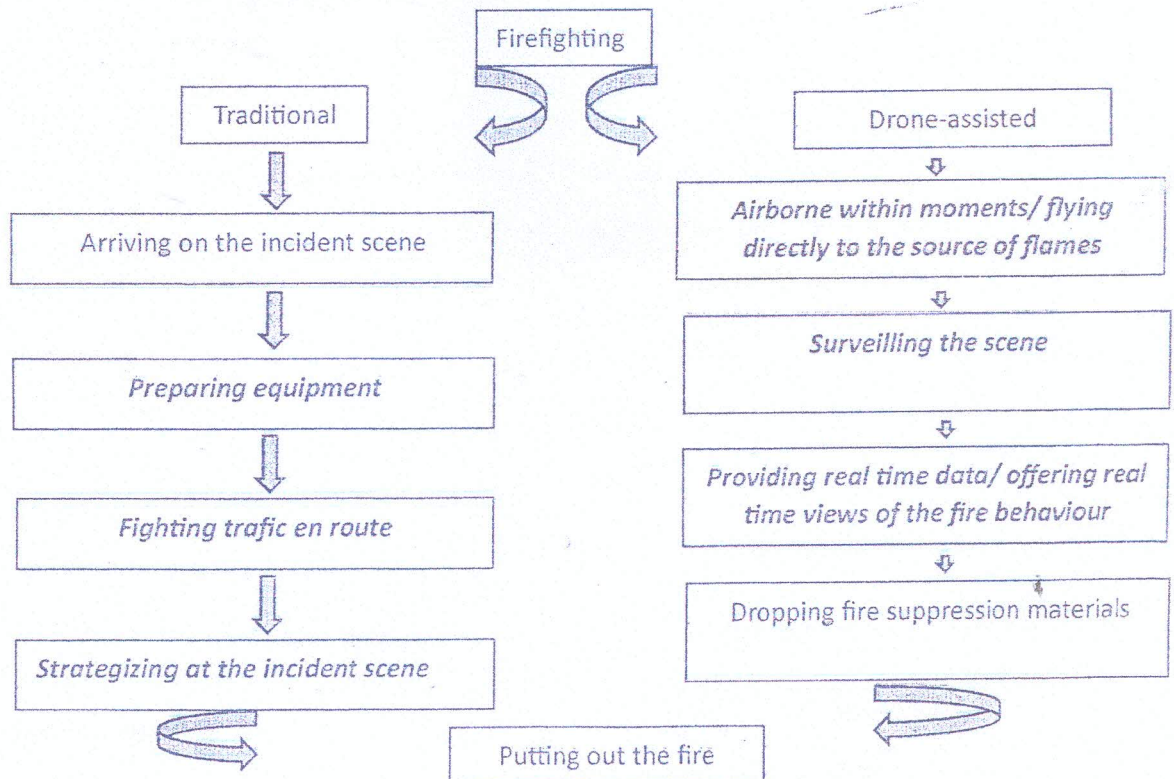
- China is at the forefront in the drone technology (1)

b- speaks volumes (§10):

- reveals a great deal of information without the use of words (2)

Question 6

Complete the flow chart with information from the text:



Question 7

Pick out from the text a verb and a phrasal verb having the meaning of:

fight fire:

- *douse* (§3) / *extinguish* (§8) - *choke out* (§7) / *beat out* (§10)

Question 8

Find in the text words having approximately the same meaning as the following:

- a- to speed up (§4): *to expedite*
b- in a quick and skilful way (§7): *adroitly*
c- lessen (§9): *dampen*

Question 9

What do the underlined words in the text refer to:

- a- it (§4): *(vital) information*
b- so (§7): *fighting fire (with imagination and precision)*
c- which (§9): *acceptance of drones in populated areas/ their acceptance in populated areas*

PART TWO: Language

Question 10

Put the bracketed verbs in the right tense:

For long, consumers (wield) have wielded their power to send messages to brands. Now, more than ever, they (want) want to buy brands whose values align with their own, and boycott others to protest. This phenomenon (recently/cause) has recently caused harm to brands all across the world after the Middle-East war (break) broke/ had broken out. One such brand caught in the crossfire is McDonald's, which in February stated that the company (miss) had missed its quarterly targets for the first time in four years, with sales being most impacted in the Middle East.

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Question 12

Find synonyms of the bracketed words. You are given the first two letters of the word. The number of dots corresponds to the number of the missing letters:

Chinese startup DeepSeek's launch of its *latest* (= newest) AI models, which it says are on a par or better than industry-leading models in the United States at a fraction of the cost, is *threatening* (= menacing) to upset the technology world order. The company has attracted attention in global AI circles after writing in a paper last month that the training of DeepSeek-V3 *required* (= needed) less than \$6 million worth of computing power from Nvidia H800 chips. DeepSeek's AI Assistant, powered by DeepSeek-V3, has overtaken *rival* (= competitor) ChatGPT to become the top-*rated* (=evaluated) free application available on Apple's App Store in the United States.

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Change the underlined phrases using compound adjectives:

A recent UK report backed by the government (*government-backed* report) on AI safety said that tech companies still rely heavily on models that consume energy (*energy-consuming* models) and especially fossil fuel. The report suggested investing in new power sources to supply electricity whose carbon is low (*low-carbon* electricity) in a project lasting five years (*five-year* project) allowing AI expansion while monitoring its environmental impact.

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Peter might *have forgotten* that we had changed the time of the meeting.



b- They say he is one of the most powerful businessmen in Europe.

He is *said to be* one of the most powerful businessmen in Europe.

c- They asked us how we had got on with the new device.

"How did you get/ have you got on with the new device?", they asked.

d- Do you ever regret not having gone to a foreign university?

Do you ever wish you *had gone* to a foreign university?

e- We have managed to account for all the papers.

We have succeeded *in accounting* for all the papers.

f- Peace talks were not held by the appropriate parties to end the war more rapidly.

Had *peace talks been held by the appropriate parties*, the war would have ended more rapidly.

The appropriate parties held peace talks, ...

PART THREE: Writing

Question 16

Fill in the blanks with the appropriate linkers from the list below (there are 2 extra words):

despite- though- yet- according to- furthermore- such as- as well as

Several members of the G7, which represents the biggest economies in the developed world, have already come close to ending the use of coal. Coal makes up less than 6% of the electricity mix in the UK, Italy and Canada, and almost nothing in France. *Yet*, it still comprises 32% of Japan's electricity mix, 27% of Germany's and 16% of the US', *according to* a recent report. *Despite* the caveats, several climate policy experts welcomed the announcement, describing it as a breakthrough after years of roadblocks on the issue. The G7 typically leads on global climate policy. The group's decisions often influence the wider G20, which includes other big emitters, *as well as* major fossil fuel producers, *such as* Saudi Arabia and Russia.



Question 17

In each line there is one wrong word.

For each line underline the wrong word and write the correct word in the space provided.

- | | |
|---|-------------------|
| TikTok's popularity skyrocketed in 2020 thanks in large part <u>for</u> | 1- <i>to</i> |
| its unique algorithm, <u>who</u> prioritizes showing users entertaining | 2- <i>which</i> |
| content <u>weather</u> or not it's from an account they follow. | 3- <i>whether</i> |
| Users flocked to the app, as <u>do</u> creators, who found it far | 4- <i>did</i> |
| <u>easy</u> to quickly build an audience and discover almost overnight success. | 5- <i>easier</i> |

Question 18 (Essay)

To what extent can Artificial Intelligence be beneficial to students?

Write a 15-line essay where you discuss the question using solid arguments.

Introduction:

AI can be incredibly beneficial to students in many ways, but its impact largely depends on how it's integrated into the educational process.

Ideas:

- **advantages:**

Availability: AI-powered platforms and tools can be accessed at any time, providing students with the ability to learn at their convenience. This is particularly useful for students who may need more time to understand a concept or who have schedules that don't align with traditional classroom hours.

Resource efficiency:

AI tools can give students access to a wide range of resources beyond what is available in a traditional classroom setting. From virtual labs and simulations to access to online database and learning platforms, AI provides a wealth of educational content that can be tailored to each student's needs.

Language and translation assistance:

AI-powered language translation tools can help students from diverse linguistic backgrounds understand materials in their native languages. This can break down language barriers and create a more inclusive educational environment.

Instant feedback and assessment:

AI enables immediate feedback on assignments and tests. Unlike traditional methods where students may have to wait for teachers to grade papers, AI can quickly identify errors, provide explanations, and suggest improvements. This helps students learn from their mistakes right away, reinforcing better understanding and retention of the material.

Automation of administrative tasks:

Teachers can save time by using AI to automate administrative tasks such as grading, scheduling, and attendance tracking. This allows teachers to focus more on teaching and interacting with students, leading to a more engaged and a more engaged classroom environment.

Skill development:

AI can help students acquire critical skills like problem-solving, data analysis, and logical thinking, which are increasingly essential in the modern workforce. By interacting with AI-driven platforms, students also gain a deeper understanding of how AI works, which can be a key element in preparing them for future careers.

Support for diverse learners:

AI can assist students with special needs by providing tools for learning, such as text-to-speech for students with dyslexia or voice recognition for students with mobility challenges. AI's ability to tailor resources to individual needs can ensure that all students, regardless of their learning differences, have access to high-quality education.

AI can adapt learning materials to suit each student's individual needs, pace, and style. It helps identify strengths and weaknesses, creating customized lessons and exercises to ensure that each student receives the appropriate level of challenge. For instance, AI-powered tutoring systems can offer extra support for students struggling with specific topics or accelerate learning for those who are excelling.

• *disadvantages:*

Dependence on technology:

Overreliance on AI could lead to students becoming too dependent on technology, possibly reducing their critical thinking and problem-solving skills.

Privacy concerns:

Collecting and storing data on students' learning patterns can raise issues around data security and privacy.

Access inequality:

Not all students may have equal access to the necessary technology, potentially exacerbating existing educational inequalities.

Conclusion:

In summary, AI has the potential to significantly enhance student learning experiences and outcomes, but its integration must be done thoughtfully and responsibly to maximize benefits and minimize risks.