



Cambridge International AS & A Level

THINKING SKILLS

9694/41

Paper 4 Applied Reasoning

October/November 2025

1 hour 45 minutes



You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **all** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.

INFORMATION

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [].

This document has **8** pages. Any blank pages are indicated.

Questions 1 and 2 refer to Document 1.

- 1 (a) State the main conclusion of the argument. [1]
- (b) Identify **two** intermediate conclusions in paragraphs 3 to 4. [2]
- (c) Analyse the structure of the reasoning in paragraph 2. [5]
- (d) Identify **one** counter-assertion. [1]

- 2 Identify and explain **four** flaws and/or weaknesses in the reasoning in paragraphs 3 to 5. [8]

- 3 Questions 3(a) and 3(b) refer to Document 4B.

- (a) 'The rise of artificial intelligence will certainly have a negative effect on the total number of jobs.'

Identify **three** weaknesses in the support given to this claim. [3]

- (b) Make **one** criticism of the way in which the chart has been presented. [1]

Question 3(c) refers to Document 5.

- (c) 'By 2030 AI will account for a large proportion of the world's economy.'

Identify **two** weaknesses in the support given to this claim by the graph. [2]

- 4 You are advised to spend some time planning your answer before you begin to write it.

'The rise of artificial intelligence should be restricted.'

Construct a reasoned argument to support **or** challenge this claim.

Your argument should:

- have a clear structure and make use of various argument elements
- use and evaluate evidence from Documents 1 to 5
- respond to significant counter-positions. [27]

DOCUMENT 1**The future of artificial intelligence**

- 1 Many people remember the premise of the film *The Terminator* and its various sequels – machines become too clever, take over the world and declare war on humanity. Some dismiss this as Hollywood fantasy, but they are naïvely optimistic. Artificial intelligence (AI) is everywhere in the modern world, from virtual assistants in our homes to smart screens that guess what we are going to type next. It is often said that AI not only makes our lives easier but will eliminate the need to do boring or dangerous jobs and could solve some of the big global issues. However, the dangers of AI are overlooked and our lives being easier is something of an illusion.
- 2 Many workers lost their jobs with the introduction of steam-powered machinery during the industrial revolution. So the AI revolution will cause many people to be out of work. Long-term unemployment leads to poverty and poverty results in starvation and civil unrest. So AI will cause starvation and civil unrest.
- 3 AI is not safe. The rise of driverless cars will increase the number of road accidents. The computers which control driverless cars are programmed to react to certain situations, such as 'If someone is on the road, stop,' but the computer's camera is not a human eye. In 2018, a cyclist was killed by a self-driving vehicle, which proves that we cannot trust these machines with our lives. AI can also be used in hacking and cybercrimes, and terrorists could use it to inflict mass destruction.
- 4 The capabilities of AI have been increasing for years and will eventually surpass human intelligence. Our future safety is at risk from AI because it will perceive humans as inferior and begin to refuse human commands. It will prevent itself from being switched off and eventually create its own robot weapons to attack humanity.
- 5 It is often said that AI does, or will, solve many of the world's problems, like climate change. However, problem-solving is an activity that many humans enjoy, and its development can lead to innovation and creativity. A future without art and new ideas is a very bleak future indeed. The rise of intelligent machines is dangerous, as it puts us at risk in the present and in the future. Several film stars have warned that there are very real risks associated with the march of the technology if left unchecked. We ought to limit the development of AI.
- 6 The world could function without AI. The fact that we have successfully managed to remove environmentally damaging chemicals from aerosol sprays, have almost eliminated the use of coal for electricity generation and are on the way to replacing petrol and diesel vehicles shows that we can eliminate a technology that people once thought essential and still function perfectly well.

DOCUMENT 2

Don't worry about AI

One can't help but be impressed by the increasing ability of machines to replicate or even surpass human abilities in complex tasks. Artificial intelligence (AI) machines can already beat the best players in the world at the boardgames chess and go. In addition to such intriguing demonstrations of AI capabilities, there are an increasing number of real-world applications for AI. Digital personal assistants, like Alexa and Siri, use AI technologies to learn the most suitable answers to our questions. Driverless cars 'learn' through experience using AI. AI-enabled machines could learn to interpret medical results, such as CT scans, making diagnosis quicker and more accurate.

Artificial intelligence can be defined as 'a collection of technologies that can be used to imitate or outperform humans in tasks traditionally carried out by humans'. AI is already used in a wide range of applications, including search engines and chatbots, but machines are encroaching on the fundamental abilities that distinguish humans from animals: making complex decisions, solving problems and, crucially, learning.

There are many concerns about AI. As far back as 2015, the UK's chief economist suggested that as many as one third of jobs, for example, drivers, administrative staff and people who answer customer questions over the phone, could be lost to automation. In the future, AI will affect a much broader range of jobs, including many that are highly paid and highly skilled. Facial recognition systems and CCTV could jeopardise our privacy. World-renowned scientist Stephen Hawking once said that 'AI may replace humans altogether' as a 'new form of life' that can rapidly learn and improve, making people obsolete.

However, many have a positive view of the future of AI. Tech billionaire Jeff Bezos has stated that 'Artificial intelligence is more likely to save humanity than to destroy it', and technology entrepreneur and Stanford University professor Andrew Ng thinks AI capabilities will allow us to build a much brighter future where humans are relieved of menial work.

AI has the potential to change the world in unimaginable ways and society has always been concerned about the introduction of new technology. From the textile machines of the industrial revolution that were smashed by angry workers to the bicycle, new technology has prompted cries that people will become redundant or that society will be massively altered. The nature of work and working patterns has always changed and will continue to do so. New technology often results in temporary job losses, but the system has always reset and in recent years that reset has been associated with better working conditions for most people.

We should consider the benefits that AI has already brought, such as the speedier detection of bank fraud and cancer diagnosis. Worries about sci-fi scenarios are a distraction from the real challenges of the future. We are repeatedly told about the superiority of computers, but these machines are built by our own hands. Most people would agree that technological progress is a good thing. For centuries we have gradually made our lives easier and safer through innovation and automation. Driverless vehicles will drastically reduce the number of traffic accidents, whatever the opponents claim. The world moves on and we should embrace it, sensibly.

DOCUMENT 3**The ethics of artificial intelligence**

The proliferation of AI poses some ethical questions. Some of these questions are big and, perhaps, theoretical: Should we regard AI machines as sentient beings? Should they have rights? Do we have the right to turn off a machine that is more intelligent than us? Should we treat them like human adults? Or children? Or animals, and if so, which ones?

Other questions are more practical and specific. For example, how should we view the military use of AI? Robots are already at work in bomb disposal, mine clearance and missile defence systems. Some think that developing military robots which are programmed to strict ethical codes could be beneficial – they might be less susceptible to rule breaking than human soldiers. However, who would be responsible for a bad decision made by a military robot? The owner, the hardware engineer, the software programmer, or the robot itself?

Take the familiar example of driverless cars. If such a vehicle is involved in a situation where there is a pedestrian in the road then a split-second decision, that amounts to a moral dilemma, must be made. If the vehicle swerves, four passengers could be killed, but if the vehicle does not swerve, the pedestrian will almost certainly be killed. How should a machine decide?

Many claim that technology is morally neutral. Nuclear power can kill people. It has done so deliberately, in the form of nuclear weapons, and by mistake, in accidents at power plants. However, the same technology provides electricity to billions of homes and does not contribute to global warming. Rockets can deliver bombs to their target or people to the moon. Any technology can be seen as a tool that is ultimately wielded by a human being.

DOCUMENT 4A

Musician not impressed with AI songwriting

Nick Cave is completely unimpressed with the ability of a new AI chatbot to create song lyrics in the Australian singer's unique style. 'What ChatGPT is, in this instance, is replication as travesty,' writes Cave, in his personal blog. 'ChatGPT may be able to write a speech or an essay or a sermon or an obituary, but it cannot create a genuine song. With all the love and respect in the world, this song is... a grotesque mockery of what it is to be human. I don't much like it.'

The song includes the following lyrics:

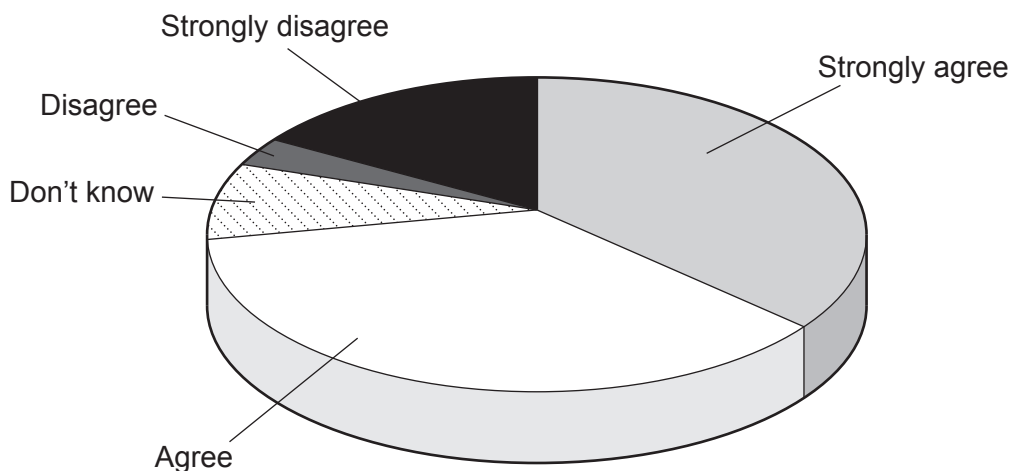
In the depths of the night, I hear a call
A voice that echoes, through the hall
It's a siren's song, that pulls me in
Takes me to a place, where I can't begin

Since it launched, the chatbot has been something of a sensation. Millions of users have had the opportunity to play around with the cutting-edge technology. The bot is able to write in a huge range of styles but it has limitations. It often asserts incorrect information as fact and is prone to repeating social biases found in large chunks of the web.

Educators are concerned that ChatGPT is being widely used to write essays, and that new approaches to education are necessary in response.

DOCUMENT 4B

The rise of artificial intelligence will certainly have a negative effect on the total number of jobs. Over 3000 adults of working age from a group of European countries were asked whether they thought the increased use of AI robots would cause more jobs to disappear than would be created. The results are shown below.

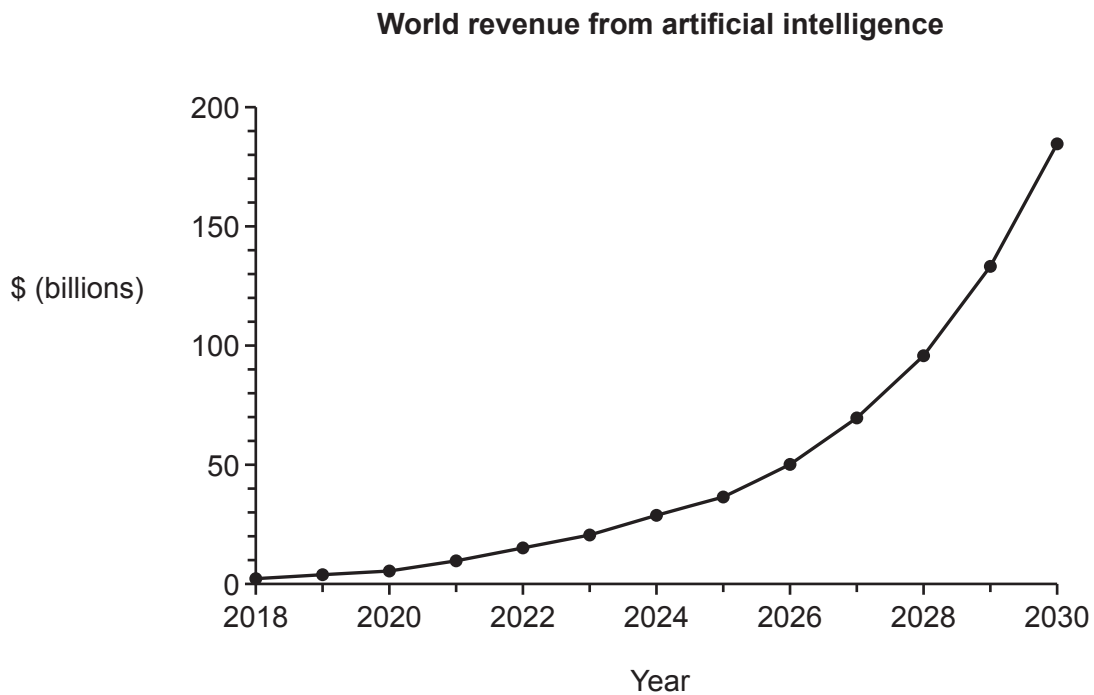


Interestingly, the same group of people were also asked if they thought that AI was a risk to their own jobs. Only 3% answered 'yes'.

DOCUMENT 5**Some statistics about the monetary value of artificial intelligence**

The exponential rise in artificial intelligence has already had a big impact in the workplace and a knock-on effect on world economics. However, whereas AI has led to some job losses, other jobs have been created, and the opportunities for making money from AI are vast. The World Economic Forum estimated that 85 million jobs would be lost globally due to AI by 2025 but that 97 million jobs would be created. The same organisation believes that around half of all employees worldwide will need to be retrained by 2030 to cope with the new working patterns. The sectors in which jobs are most likely to be replaced by AI robots are food preparation, production, and office and admin support. Jobs might be more difficult to replace entirely in some sectors, like law, healthcare, education and creative arts, but some of the tasks within those industries could certainly be carried out by intelligent machines. And some already are.

The graph below has been produced from data collected by a group of economics experts and shows that by 2030 AI will account for a large proportion of the world's economy.



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