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Digital society
Higher level
Paper 1

18 May 2026

Zone A afternoon | **Zone B** afternoon | **Zone C** afternoon

2 hours 15 minutes

Instructions to students

- Do not open this examination paper until instructed to do so.
- Section A: answer two questions.
- Section B: answer one question.
- The maximum mark for this examination paper is **[52 marks]**.

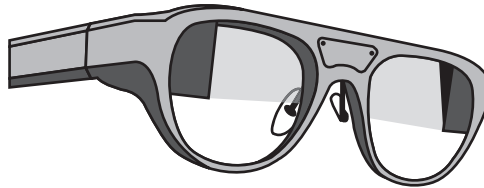
Section A

Answer **two** questions from this section. Each question is worth [20 marks].

1. Augmented reality (AR) glasses

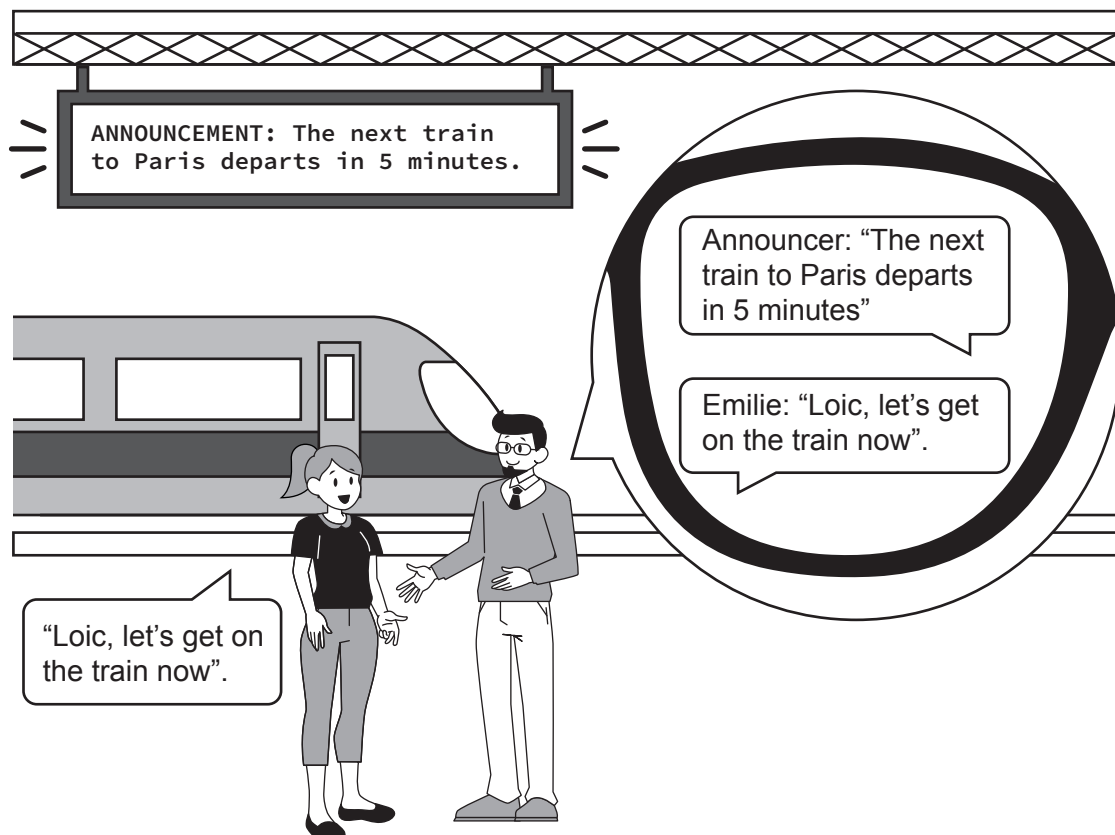
EyeTalk has developed augmented reality (AR) glasses (see **Figure 1**) that convert speech into text and display the text on the lenses of the glasses.

Figure 1: An example of augmented reality (AR) glasses



This allows a wearer of the augmented reality (AR) glasses, such as Loic, to read text versions of the conversations and other verbal communications that are taking place around them in real time (see **Figure 2**).

Figure 2: Speech captions on a lens of the augmented reality (AR) glasses, Loic's viewpoint



(This question continues on the following page)

(Question 1 continued)

The augmented reality (AR) glasses are an example of an Internet of Things (IoT) device. The glasses contain a low-powered microprocessor and require connectivity to an app on the user's smartphone.

EyeTalk has also developed translation services so that users will see the text in the glasses in their own language when someone speaks to them in another language.

- (a) (i) Identify **one** input device that would be used by the augmented reality (AR) glasses. [1]
- (ii) Identify **one** output device that would be used by the augmented reality (AR) glasses. [1]
- (iii) Identify the steps taken to convert speech to text. [4]
- (b) (i) Distinguish between augmented reality (AR) and virtual reality (VR). [2]
- (ii) Explain **one** way in which these augmented reality (AR) glasses are an example of an Internet of things (IoT) device. [2]
- (iii) Suggest **one** reason why the augmented reality (AR) glasses need to be connected to a smartphone. [2]
- (c) Discuss the opportunities **and** dilemmas of the use of augmented reality (AR) glasses. [8]

2. Online voting in national elections

Election authorities in several countries around the world use online voting for political elections. Online voting refers to casting a vote via the internet.

A voting website (see **Figure 3**) uses a secure web page where voters must be authenticated.

Figure 3: A voting website

Encryption is used to ensure the security of the data when it is stored or transmitted. The data is stored in the cloud.

In some countries, more than 50 % of citizens cast their votes online, whereas other countries have decided not to adopt online voting.

- (a)
 - (i) Identify **two** hardware components that allow a computer to be connected to the internet. [2]
 - (ii) Identify **two** characteristics of encryption. [2]
 - (iii) Describe the difference between identification and authentication. [2]
- (b)
 - (i) Explain **two** advantages for election authorities of using the cloud to store voters' data. [4]
 - (ii) Explain **one** disadvantage of using the cloud to store voters' data. [2]
- (c) Discuss the opportunities **and** dilemmas of using online voting for political elections. [8]

3. Artificial intelligence (AI) in news generation

Online and television news agencies have adopted the use of artificial intelligence (AI) in the reporting of the news in several ways.

Artificial intelligence (AI) tools can be used to generate news articles that are published on news media platforms. They can also be used to generate images for online articles.

In some countries, television newsreaders have been threatened by people who oppose the views on which they are reporting. One strategy to address this is to use an artificial intelligence (AI)-generated actor (avatar) to present a news story instead of a real human (see **Figure 4**).

Figure 4: Examples of artificial intelligence (AI)-generated actors (avatars) that read the news



- (a) (i) Identify **two** types of artificial intelligence (AI). [2]
- (ii) Identify **two** components of an algorithm. [2]
- (iii) Identify **two** reasons why news stories are given hashtags when posted on an online news platform. [2]
- (b) (i) The text for news articles can be generated using supervised learning or unsupervised learning. [2]
- Distinguish between supervised learning and unsupervised learning. [2]
- (ii) Explain **two** disadvantages of using artificial intelligence (AI)-generated actors (avatars) to present a news story. [4]
- (c) Discuss the opportunities **and** dilemmas of using artificial intelligence (AI) to generate news articles. [8]

Section B

Answer **one** question from this section. Each question is worth [12 marks].

4. **Augmented intelligence in medical decision-making**

With the increased availability and quantity of patient data, such as health records, test results, a challenge for doctors is to use this data effectively and efficiently to support their decision-making.

One possible intervention is the use of augmented intelligence for medical diagnostic support systems. Augmented intelligence processes huge volumes of data using artificial intelligence (AI) to provide information that helps doctors make more accurate diagnoses.

Global health experts have claimed that augmented intelligence will enhance medical decision-making.

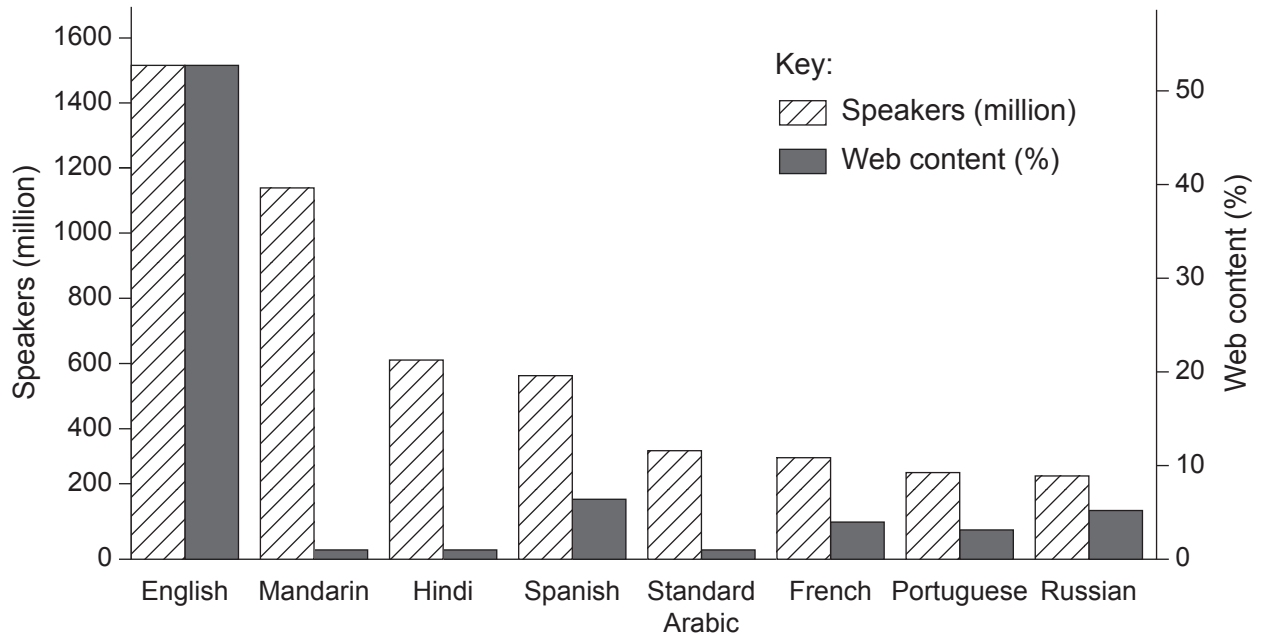
To what extent do you agree with this claim?

[12]

5. English as a worldwide common language

English is the dominant language globally. It is spoken by 1500 million people with 52 % of all web content being written in English (see **Figure 5**). In contrast, 1140 million people speak Mandarin, but only 1 % of all web content is written in Mandarin.

Figure 5: Web content by language and number of speakers



The dominance of English in web content is a disadvantage for peoples and nations who do not speak English as their first language. As **Figure 5** shows, many languages are under-represented in web content, and this could lead to the decline—or even the disappearance—of some languages. The challenge is to increase the availability of web content in these under-represented languages.

One intervention to address this challenge is for funding to be provided to support web content in languages other than English.

It is claimed that this intervention will improve the representation of languages on the web.

To what extent do you agree with this claim?

[12]

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References:

- Figure 4** gorodenkoff, 2022. *TV Live News Program: Professional Female Presenter Reporting on Current Events. Television Cable Channel Anchorwoman Talks Confidently. Mock-up Network Broadcasting in Newsroom Studio.* - stock photo. [image online] Available at: <https://www.gettyimages.co.uk/detail/photo/professional-female-presenter-reporting-on-current-royalty-free-image/1408026681> [Accessed 3 March 2025]. Source adapted.
- gorodenkoff, 2022. *Beginning Evening News TV Program: Anchor Presenter Reporting on Business, Economy, Science, Politics. Television Cable Channel Anchorman Talks. Broadcast Network Newsroom Studio Concept.* - stock photo. [image online] Available at: <https://www.gettyimages.co.uk/detail/photo/beginning-evening-news-tv-program-anchor-presenter-royalty-free-image/1407334351> [Accessed 3 March 2025]. Source adapted.