



PART 1

Read the text below and answer questions 1–13.

THE RISE OF WEARABLE TECHNOLOGY

A

The idea of wearing technology is older than many people assume, and its earliest successes were not necessarily “electronic” in the modern sense. The wristwatch, for instance, developed from portable timekeeping devices into an everyday personal tool, demonstrating how utility and fashion can merge into an object carried on the body. By the late twentieth century, designers began experimenting with electronics that could be worn rather than carried. Calculator watches in the 1970s and 1980s signalled that a wrist device could do more than tell time, while hearing aids—although medical rather than consumer gadgets—showed that miniaturised components could be shaped around the body’s needs. Some historians of consumer technology even describe the Walkman as a “broad” wearable: it was not attached to the skin, but it moved with the user and changed behaviour by making private audio portable in public space. Yet these early forms were constrained by the period’s hardware. They were typically single-purpose, bulky, and limited by battery life and component size, which meant that wearing them often involved tolerating awkward form factors, short runtimes, and basic displays that offered little context or personalisation.

B

A major turning point came when several engineering trends converged: miniaturisation, wireless connectivity, and cheaper sensors. Bluetooth-style connections reduced the need for cables and made it realistic for small devices to synchronise with phones and computers, while advances in low-power chips allowed wearables to operate for days rather than hours. At the same time, tiny motion sensors—especially MEMS (micro-electro-mechanical systems) accelerometers and gyroscopes—made it possible to measure movement and orientation accurately with minimal battery drain. This hardware shift helped launch the modern fitness-tracker era. Early wristbands and clip-on devices popularised the “quantified self” mindset by turning everyday activity into measurable data: step counts, active minutes, approximate calorie burn, and sleep duration became daily metrics rather than occasional curiosities. Products associated with the Fitbit and Nike+ era encouraged users to set targets, compare performance over time, and share progress socially, which made tracking feel less like a technical experiment and more like a lifestyle routine. In this phase, wearables became companions rather than novelties, partly because connectivity allowed dashboards and trend graphs to live on a phone, while the wearable itself collected data quietly in the background.



C

As wearables matured, the most dramatic shift was their movement from general wellness toward health monitoring with clearer medical relevance. Modern smartwatches now act as health hubs: many monitor heart rate continuously, estimate blood oxygen levels, and in some cases offer features similar to a basic electrocardiogram. The significance of these functions is not simply technological prestige. Continuous measurements can help users notice unusual patterns—such as a persistently elevated resting heart rate or irregular rhythms—and may prompt earlier consultation than would happen if monitoring depended on occasional clinic visits. Some devices and features have also been assessed by regulators, and in certain regions particular functions have received authorisation or clearance for specific uses, which has pushed manufacturers to frame wearables not only as lifestyle products but as tools that can support early warning and intervention. Specialised medical wearables extend this trend further. Continuous glucose monitoring systems, for example, allow near real-time feedback for people managing diabetes, while fall detection and emergency alerts are designed to reduce risk for older users. In these cases, the wearable’s value lies less in counting steps and more in detecting potentially consequential events and supporting timely decisions.

D

Wearables are no longer limited to health, and some of the most ambitious designs treat the device as an interface rather than a tracker. Augmented-reality glasses provide a useful example. Early consumer experiments such as Google Glass attracted attention precisely because they placed digital information in the user’s field of view, but they also revealed social and practical barriers: concerns about recording, awkward aesthetics, and unclear everyday use-cases restricted adoption. More recent systems, including industrial headsets like HoloLens, have been used in settings where hands-free guidance is valuable—maintenance, remote assistance, and technical training—suggesting that wearables may succeed most readily when they solve a specific workflow problem rather than offering a vague promise of “the future”. Sensor-embedded clothing and haptic devices also broaden the category. Smart textiles can track posture, movement, or fatigue and have been explored in occupational contexts where injury prevention matters. Haptic wearables, meanwhile, can provide tactile cues for training or navigation, and some prototypes are used for stress management or mood regulation. Across these examples, the defining feature is immediacy: the wearable delivers prompts, feedback, or interpretation in real time, shaping perception and action rather than merely recording history.

E

With growth comes controversy, and the most persistent objections concern privacy,



security, and unequal access. Wearables can collect highly sensitive biometric and location data, raising questions about where information is stored, who owns it, and how consent is obtained. Critics argue that the risk is not only data leaks but “secondary use”: information gathered for wellness may later be valuable to technology platforms, advertisers, insurers, or employers. Even when users technically agree to terms, the practical meaning of consent can be unclear if policies are long, interfaces are opaque, or opting out reduces the product’s usefulness. Security issues intensify the concern because wearable devices often sit within a larger ecosystem of phones, apps, and cloud services, creating multiple points of vulnerability. A second challenge is the digital divide. If advanced wearables remain premium products, they may widen health and digital gaps rather than close them—especially if public services begin to assume that people can self-monitor. Commentators therefore call for clearer regulation, better transparency, and designs that remain usable across different income groups, including longer device lifespans, accessible interfaces, and meaningful control over data sharing.

F

Looking ahead, many researchers expect deeper integration with the body, which would blur the boundary between device and user. Epidermal electronics that attach like temporary tattoos—sometimes described as “electronic skin” or e-skin—aim to provide seamless monitoring and rapid feedback without the friction of straps or rigid casings. Smart contact lenses have been explored as platforms for discreet sensing, while implantable sensors promise continuous measurement for medical management in cases where convenience and reliability are critical. More speculative work extends to brain-computer interfaces, where signals from the nervous system could be used to control devices or restore lost function, raising profound questions about safety standards, identity, and autonomy. As integration becomes more intimate, the ethical debate is likely to intensify: what counts as acceptable monitoring, how long data should persist, and whether users can realistically separate themselves from systems that increasingly shape their decisions. In this sense, the future of wearables is not merely an engineering story. It is also a debate about how much technological mediation people want in daily life, and who gets to define the rules.

Questions 1–6

Choose the correct heading for each paragraph.

List of Headings

- i From simple accessories to early electronic limitations
- ii Connectivity and the quantified self movement



- iii The blurring line between biology and technology
- iv The transition to medical-grade monitoring
- v Ethical concerns and societal inequality
- vi Expanding applications beyond personal wellness
- vii The role of government in product authorisation
- viii Reasons why augmented reality failed to attract consumers
- ix How battery life constraints were finally overcome

1 Paragraph A

2 Paragraph B

3 Paragraph C

4 Paragraph D

5 Paragraph E

6 Paragraph F

Questions 7–10

Complete the summary below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

Key stages in the development of wearable technology

Early wrist-based technology developed beyond simple timekeeping, with **7** showing that a wearable device could perform additional functions. Later, fitness trackers encouraged the **8** approach by recording daily activity and sleep. Modern smartwatches may monitor heart activity while also estimating levels of **9** in the blood. Future wearable designs may include skin-mounted electronics whose form is compared to **10**

Questions 11–13

Choose **TRUE** if the statement agrees with the information given in the text, choose **FALSE** if the statement contradicts the information, or choose **NOT GIVEN** if there is no information on this.

11 The earliest electronic wearables were described as lightweight and discreet.

12 The passage suggests wearable data could potentially be used by insurers or employers.



13 The writer provides exact figures showing that advanced wearables are affordable for low-income users.

Answer Key

1. i
2. ii
3. iv
4. vi
5. v
6. iii
7. calculator watches
8. quantified self
9. oxygen
10. temporary tattoos
11. FALSE
12. TRUE
13. NOT GIVEN