# Science & Technology · GS - III

**COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic.**

| EXAM YEAR | PAPER | SUBJECT |
|---|---|---|
| 2020 | GS - III | Science & Technology |

| MARKS | WORD LIMIT |
|---|---|
| 15 | ~250 words |

## Answer Hint

**Digital health; telemedicine; contact tracing; Aarogya Setu; CoWIN; genomic surveillance; diagnostics; vaccine development; data privacy; digital inequality**

## Model Answer

### Introduction

The COVID-19 pandemic disrupted healthcare systems, economies and social life worldwide. Scientific and technological advances supported disease surveillance, diagnosis, treatment, vaccination and continuity of essential services.

### Role of technology in pandemic management

- **Disease surveillance:** Digital reporting systems helped track cases, hospital capacity and emerging infection trends.
- **Contact tracing:** Mobile applications, including Aarogya Setu, were used to support exposure-risk awareness and public-health communication.

- **Telemedicine:** Remote consultations helped patients access medical advice while reducing unnecessary hospital visits.
- **Diagnostics:** Molecular testing, rapid diagnostic tools and laboratory networks supported case identification and clinical decision-making.
- **Vaccine development:** Advances in biotechnology, genomic research and clinical trial methods accelerated the development and evaluation of vaccines.
- **Vaccination management:** India's CoWIN platform supported registration, appointment scheduling, vaccination records and digital certificates.
- **Data analysis:** Modelling and analytics helped authorities estimate transmission trends and plan healthcare capacity.
- **Communication and remote services:** Digital platforms enabled public information campaigns, remote work and online education during lockdowns.

**Challenges**

Digital exclusion affected people without smartphones, connectivity or digital literacy. Privacy concerns arose around data collection and contact tracing, while misinformation complicated public-health communication. Unequal access to technology and medical supplies also limited benefits.

**Way forward**

Strengthen digital health infrastructure, protect personal data, improve public communication and maintain offline alternatives. Technology should complement trained health workers, laboratory capacity and accessible public healthcare.

**Conclusion**

Technology was a major support in managing COVID-19, from surveillance to vaccination. Its effectiveness depends on scientific reliability, public trust, privacy safeguards and equitable access.

BECOME IAS
AI POWERED UPSC PREP