# Science & Technology · GS - III

**Digital technologies can improve operational efficiency and transparency in public transport systems. Examine their potential and the challenges involved in their implementation in Indian Railways.**

| EXAM YEAR | PAPER | SUBJECT |
|---|---|---|
| DAILY PRACTICE 21/11/2026 | GS - III | Science & Technology |

| MARKS | WORD LIMIT |
|---|---|
| 10 | ~150 words |

## Answer Hint

**Digital transformation, Hand Held Terminals, real-time data, berth utilisation, passenger convenience, transparency, accountability, cybersecurity, digital divide, staff training, data accuracy, institutional reforms.**

## Model Answer

### Introduction

Indian Railways is increasingly adopting digital technologies to improve passenger services, operational efficiency and administrative transparency. Hand Held Terminals (HHTs) used by ticket-checking staff illustrate the potential of real-time digital information in reservation management.

### Potential Benefits

1. **Efficient resource utilisation:** Digital recording of vacant berths can enable their timely allocation to eligible passengers.
2. **Transparency:** Electronic records reduce discretionary practices and improve accountability in berth allotment.
3. **Passenger convenience:** Real-time information can improve reservation management and reduce uncertainty.

4. **Operational efficiency:** Integration of reservation databases with onboard devices can support faster decision-making.
5. **Data-driven governance:** Passenger occupancy data can help identify demand patterns and improve resource planning.

**Major Challenges**

- Network connectivity limitations in remote railway sections.
- Cybersecurity risks and protection of passenger information.
- Inaccurate data entry or technical failures affecting allotment.
- Need for staff training and effective grievance redressal.
- Ensuring fairness for passengers with limited digital access.

**Way Forward**

Indian Railways should strengthen digital infrastructure, conduct regular security audits, establish transparent allocation protocols and maintain accessible offline assistance. Technology adoption must be accompanied by clear passenger rights and accountability mechanisms.

**Conclusion**

Digitalisation can make railway services more efficient and transparent, but technological reform must remain inclusive, reliable and passenger-centric.

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