Science & Technology · GS - III

Assess the role of science, technology and innovation in accelerating the achievement of Sustainable Development Goals. What challenges must be addressed to ensure equitable access to emerging technologies?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 19/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

2030 Agenda, SDGs, Technology Facilitation Mechanism, STI Forum, digital divide, technology transfer, capacity building, artificial intelligence, frontier technologies, global partnerships, ethical governance, inclusive development.

Model Answer

Introduction

Science, technology and innovation (STI) are important enablers of the United Nations' 2030 Agenda. They can accelerate progress in areas such as healthcare, education, clean energy, agriculture and climate resilience.

Role in Achieving SDGs

- **Healthcare:** Digital health platforms, vaccines and diagnostic technologies improve healthcare access and outcomes.
- **Agriculture:** Precision farming, climate-resilient crops and improved irrigation support food security.
- **Education:** Digital learning platforms expand educational opportunities.
- **Climate action:** Renewable energy, energy storage and climate modelling support sustainable development.

- **Governance:** Artificial intelligence and data analytics can improve public service delivery and resource allocation.

Challenges to Equitable Access

- **Digital divide:** Unequal internet connectivity and digital literacy exclude vulnerable populations.
- **Technological inequality:** Developing countries often lack research infrastructure and financial resources.
- **Data and ethical risks:** AI can reinforce discrimination, threaten privacy and create accountability concerns.
- **Technology dependence:** Limited domestic innovation can increase dependence on foreign technologies.

Institutional and Policy Measures

The UN Technology Facilitation Mechanism, including its annual STI Forum and Group of Ten, promotes international cooperation, partnerships and capacity building. Developing countries require affordable technology transfer, research investment and stronger institutional capabilities.

Conclusion

Technology can accelerate sustainable development only when its benefits are widely accessible. Inclusive innovation, responsible governance and international cooperation are essential to ensure that technological progress advances the SDGs without deepening global inequalities.

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