Science & Technology · GS - III

Discuss the significance of institutional science and technology advisory mechanisms in policymaking. How can governments ensure responsible development and deployment of Artificial Intelligence?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 06/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Scientific advisory institutions, evidence-based policymaking, expert consultation, AI governance, algorithmic bias, data privacy, transparency, accountability, innovation ecosystem, public-private partnerships, ethical standards, regulatory frameworks and international cooperation.

Model Answer

Introduction

Rapid technological advancements, particularly in Artificial Intelligence, require governments to develop informed and responsible policies. Scientific advisory institutions help bridge the gap between research and policymaking.

Role of Scientific Advisory Institutions

Expert advisory bodies provide independent scientific inputs, assess emerging technologies and help governments understand technological opportunities and risks. Collaboration between policymakers, researchers and industry improves evidence-based decision-making.

Challenges of AI Governance

AI systems raise concerns relating to algorithmic discrimination, data privacy, misinformation, cybersecurity and accountability. Excessive regulation may also affect innovation, while inadequate oversight can increase societal risks.

Way Forward

Governments should establish transparent regulatory frameworks, conduct risk assessments and promote responsible AI research. Independent audits, data protection safeguards, public consultations and international cooperation can strengthen accountability. Public-private partnerships should support innovation while ensuring ethical standards.

Conclusion

Scientific advisory mechanisms and responsible AI governance are essential for balancing technological innovation with public interest, democratic accountability and social welfare.

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