



**General Studies-3; Topic: Science and Technology- developments and their applications and effects in everyday life.**

## Generative AI

### Introduction

- The global generative AI market is projected to experience explosive growth in the coming years.
- As the commoditisation of AI services becomes more widespread, business models of industries will change drastically.

### AI Future

- LLMs (Large Language Models) and Generative AI are set to automate various tasks that require natural language understanding.
- That includes summarisation, translation, answering questions, coding, and even conversation.
- AI-powered coding assistants like ChatGPT and Amazon CodeWhisperer are rapidly gaining popularity and helping developers undertake routine tasks.
- Ninety-two per cent of programmers based in the US are now leveraging AI to supplement their coding abilities.

### Benefits

- A large majority of developers believe that AI coding tools will give them an edge in the workplace.
- Benefits from using AI coding assistants, include accurate, efficient and faster coding.

## **Concerns / Challenges**

- Disruption of markets, creation of inequalities, reduction of incentives for human creativity and innovation, and the displacement of workers.
- This will create hundreds of millions of unemployed skilled and semi-skilled workers.
- It will also impact developed and developing nations differently.
- Nations and societies that do not rapidly reskill their workforce will be disproportionately affected.
- In India, sectors that involve routine information processing will be affected.
- India is not as well-prepared as China and the US to face the onslaught of Generative AI and related technologies.
- There are limitations in access to cloud computing in India for training large language models.
- Lack of coordination between academia and industry in India.
- Data security and privacy concerns.

## **Way Forward**

- Workforce training programmes, new policies, and social support measures that help people through this transition are the need of the hour.
- Incentivisation of the transition of workers by helping them gain new technical skills should be a high priority.
- The state can think of providing tax breaks and other incentives to help businesses retrain workers.
- Creating income supplement opportunities and job placement services to help displaced workers apply for new roles.
- Develop a comprehensive national AI strategy that connects stakeholders to provide a roadmap for responsible AI deployment.
- Establish AI policy think tanks and research institutes to foster AI innovation and nurture talent.
- Incentivise businesses to invest in AI R&D and support workers' training for the changing technological landscape.