Syllabus subtopic: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

Prelims and Mains focus: about the need for regulating AI; about AI and its applications

News: One of the most powerful men in tech, Sundar Pichai, has backed regulations for artificial intelligence (AI). While Pichai isn’t the first big tech executive to say so publicly, his voice matters, given that Google is arguably the world’s largest AI company.

2019 AI Readiness Index

India ranks 17 on the 2019 AI Readiness Index that tracks how “well-placed” governments are to take advantage of the benefits of AI in delivering public services. Singapore is the most well-prepared, while China rounds out the top 20.

Why is there a need to regulate the use of AI?

AI depends on the gathering of data, automatically making it an issue that needs regulation. Any organization will require large amounts of data to train an AI software, so how it acquires the data must be regulated.

When AI is put to use practically, it becomes an even more direct threat to privacy. For example, facial recognition can be used for mass surveillance. AI algorithms are usually built for specific tasks, but if left unchecked they can deviate from their desirable behaviour. For example, two Facebook chatbots created their own language when they were allowed to interface with each other in any way they wanted.

Who else has called for regulation of AI?

Pichai is not the first big name in tech to have sought regulations on AI. Tesla and SpaceX chief Elon Musk has been vocal about the need for regulating AI several times in the past. Musk even said that “by the time we are reactive in AI regulation, it’s too late”.

Microsoft president Brad Smith is another prominent person in tech who has
called for regulation of AI. Pichai, in his editorial, advocated for AI to be regulated keeping in mind both the harm and societal benefits that the technology can be used for. He also said that governments must be aligned on regulations around AI for “making global standards work”.

**Which fields are using the technology at present?**

AI is a buzzword in almost every field. Smartphone makers are marketing AI-driven cameras, while governments have been looking to reap the benefits of AI in various areas. Regulation has to take into account all the use cases. The use of AI in governance, healthcare, law enforcement, etc. is more intrusive than, say, enhancing a phone camera’s imaging capabilities.

**What is the status on regulation of AI?**

Pichai’s editorial came soon after reports that the European Union was planning to ban the use of facial recognition in public areas for up to five years. This would give regulators time to figure out ways to avoid the abuse of such AI technologies. The US proposed certain principles for AI regulation earlier this month, which were more lenient than the EU’s proposed policy. In May, 42 countries had adopted the inter-governmental policy guidelines on AI by Organisation for Economic Co-operation and Development (OECD).

**Where does India stand on regulations?**

While India has been vocal about the use of AI in various sectors, it is far from regulating it. A 2018 NITI Aayog paper proposed five areas where AI can be useful. In that paper, the think tank also noted the lack of regulation around AI as a major weakness for India. While presenting the 2019 Union budget, then interim finance minister Piyush Goyal had said the Centre was planning to launch a national programme on AI. While India’s startup ecosystem has built several products using AI, we do not yet have principles for regulating it.

**What is AI?**

- Artificial intelligence (AI) is wide-ranging branch of computer science
concerned with building **smart machines capable of performing tasks that typically require human intelligence.**

- AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry.

**AI examples**

- Smart assistants (like Siri and Alexa)
- Disease mapping and prediction tools
- Manufacturing and drone robots
- Optimized, personalized healthcare treatment recommendations
- Conversational bots for marketing and customer service
- Robo-advisors for stock trading
- Spam filters on email
- Social media monitoring tools for dangerous content or false news
- Song or TV show recommendations from Spotify and Netflix