General Studies-3; Topic: Awareness in the fields of IT, Space, Computers, robotics.

Budget 2018: Government Push on Artificial Intelligence

1) **Introduction**
   - Global economy is transforming into a digital economy with the development of cutting edge technologies in digital space.
   - Technologies such as Machine Learning, Artificial Intelligence and others are the technologies of the future.

2) **Budget Announcement**
   - Establishment of a national programme to direct efforts in the area of Artificial Intelligence (AI).
   - NITI Aayog will establish a national programme to conduct research and development in these areas.
   - The programme will explore both AI and machine learning technologies and their use in India.
   - Government decided to invest in research in technologies such as AI, robotics, Big Data intelligence, 3D printing, Blockchain, Machine Learning and Internet of Things.
   - The government will establish Centres of Excellence (CoEs) for research, training and skilling in these technologies.

3) **Significance**
   - Niti Ayog said, new technologies will play in the development of the economy.
   - Helps in improving the ease of doing business, as well as making the lives of people simpler.
   - According to a report, AI holds the potential to add $957 billion to the Indian economy, thereby increasing its yearly growth rate of Gross Value Added (GVA) by 1.3%, and also boost nation's income by 15 %in 2035.
   - It will give India the opportunity to innovate and succeed in today's technology-driven world.
   - The announcement in the Budget will go a long way in providing the necessary AI support required by startups.
   - A study shows AI will create 2.3 million jobs by 2020.
   - The national programme on AI can address the skilled workforce demand-supply gap effectively.
   - 'Make in India' programme can be strengthened and help India in becoming a major manufacturing hub with AI-assisted technology.
   - From healthcare to agriculture, AI is expected to improve the quality of life of people.
   - AI could support Smart City Programme regarding technology.
   - Counter China's commitment towards artificial intelligence.

4) **Concerns / Challenges**
   - AI development in India is still lagging behind many other G20 countries.
   - Indian technical universities are not doing enough to strengthen the AI ecosystem unlike their global counterparts.
   - If the control of machines goes in the wrong hands, it may cause destruction.
   - Artificial intelligence would not give value to human lives.
   - Artificial intelligence can be used to mine large amounts of public domain and social network data to extract personally identifiable information which can be used for hacking.

- It can also be used to automatically monitor e-mails and text messages, and to create personalized phishing mails for social engineering attacks.

5) Way Forward

- Need to develop a robust ecosystem to promote AI in health, education and agricultural sectors.
- India needed to view AI as a critical aspect of its national security strategy.
- India must foster AI innovations and set up AI-friendly infrastructure to prepare India's job and skill markets for AI-based future.
- With China, the US and South Korea making tremendous advances in AI, it is high time for India to have a strong AI policy in place to benefit from AI revolution.
- The government should identify public sector applications like detecting tax fraud, preventing subsidy leakage, and targeting beneficiaries, where current advances in AI could make a significant impact.
- India must view machine intelligence as a critical element of its national security strategy and evaluate models of defense research in collaboration with the private sector and universities.
- Banks may look at using AI for enhancing customer experience, security, and risk management.

6) Conclusion

- AI makes our way of living intelligent, helps us to focus on creativity and innovations, and propels our country towards a technology-driven path.
- The announcement on AI in Budget 2018 is just a step ahead in that direction.