Syllabus subtopic: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

Prelims and Mains focus: about automation: its advantages and impact on economy

News: Across the world, the rise of automation has raised concerns over its impact on employment, especially in poor countries.

Is automation a threat?

- New research, however, suggests that these fears may be overblown. While automation will disrupt the flow of capital from rich to poorer countries, the poorest countries could actually gain from automation.

- A World Bank study uses data sets on greenfield foreign direct investments (FDI) and industrial robot usage between 2004 and 2015 to investigate the relationship between automation and FDI flows.

- During the period, because of outsourcing, high-income countries (HICs) such as the European nations and the US, witnessed the largest FDI outflows, measured in terms of project announcements, into low- and middle-income countries (LMICs).

- Besides, leading sectors in HICs witnessed a huge rise in automation. The study measures automation in terms of the intensity of robot use (robots per 1,000 employees).

- They find that electronic and automobile sectors were the most automated while textiles was the least automated. The study finds that as automation increases, FDI flows from HICs to LMICs fall.
However, encouragingly, this relationship is non-linear. A 10% increase in the intensity of robots in HICs is associated with a 5.5% increase in the growth rate of FDI flows to LMICs. But above a certain threshold of automation in HICs, FDI inflows into LMICs grow at a diminishing rate and lead to reshoring with HICs investing in their own countries.

For the poorest countries, automation actually leads to greater FDI inflows, but from a smaller pool of countries. Because of this, the study argues that fears of technological advancement displacing labour may be overstated, at least for the time being.

**What does Automation mean?**

- Automation is the creation of technology and its application in order to control and monitor the production and delivery of various goods and services. It performs tasks that were previously performed by humans. Automation is being used in a number of areas such as manufacturing, transport, utilities, defense, facilities, operations and lately, information technology.

- Automation can be performed in many ways in various industries. For example, in the information technology domain, a software script can test a software product and produce a report. There are also various software tools available in the market which can generate code for an application. The users only need to configure the tool and define the process. In other industries, automation is greatly improving productivity, saving time and cutting costs.

- Automation is evolving quickly and business intelligence in applications is a new form of high-quality automation. In the technology domain, the impact of automation is increasing rapidly, both in the software/hardware and machine layer. However, despite advances in automation, some manual intervention is always advised, even if the tool can perform most of the tasks.