

8. EXAMINE THE ROLE AND IMPACT OF SCIENCE AND TECHNOLOGY IN SKILL DEVELOPMENT IN INDIA? HOW FAR THESE ARE IMPLEMENTED IN INDIA?

APPROACH-

Start the answer with introduction of skill Development in India and the role of science and technology in the same. go ahead with the significance or impact of science and technology in skill development sector and steps taken by government to achieve the goal. conclude with a way forward.

Technology has always been a key building block in education. Education includes vocational or Skill training that prepares people to gain relevant skills and join modern-day workforces. In our innovation-driven societies, workforce flexibility is a key metric of economic success. If workers constantly update their skills as per the needs of the global labour market, everyone benefits.

In 2022, unemployment rate in India has increased to 7.83 per cent. Since 2020, Indian companies have witnessed a massive gap between the demand and supply for skilled, technical jobs. The biggest worry amongst Indian industries and businesses is of not being able to upskill labour forces without government support. However India is taking positive steps to improve this situation, India's 2022 budget has been aimed at revitalising the economy.

According to Egbogah (2012), Technology is the total and complete application of man's knowledge, skills, tools and materials.

ROLL OF TECHNOLOGY IN SKILL DEVELOPMENT IN INDIA:

Tech-assisted vocational training and training provide amazing opportunities for students to upskill or learn new skills. There are already technologies being used by industries worldwide that enhance the way vocational teachers provide technical education. Here are some key emerging technologies in vocational training and training in India –

Adaptive Learning:

- This technology is designed to provide **educational activities or tasks to students based on their specific educational needs**. AI plays a key role in creating adaptive learning paths based on the students' interests and learning abilities.
- AI programs can orchestrate **real-time interactions with the students and provide them with customised resources** about the subjects they're studying.

Artificial Intelligence (AI):

- Artificial Intelligence plays a part in adaptive learning. EdTech companies are applying this technology to **process large amounts of text-based data** for students receiving vocational training and training.
- In India, students need to work on books, technical manuals, etc., during VET. AI-powered text processing tools can make this **information more accessible** to students. For example, students can receive voice translations or synopses of huge texts in their native language.

Automation:

- Many companies have created **automated educational platforms** for their workers. Students learn by interacting with automated UIs.
- These user-friendly systems make **vocational training simpler and easier** to access. Lectures can be digitally scheduled and attended remotely by all students.

Augmented and Virtual Reality:

- VR technology allows students to be immersed in an entirely **artificial environment** that's designed for one specific scenario – education.
- AR technology **modifies our real-life environment** by overlaying animation/information on it.
- VR and AR in vocational training and training uses four basic teaching styles
 - Visual learning
 - Auditory learning
 - Tactile learning
 - Reading and writing.

IMPACT/SIGNIFICANCE OF TECHNOLOGY IN SKILL DEVELOPMENT IN INDIA:

1. Crossing Boundaries:

- Forwarding skill to areas where it was formerly not possible has now become quite comfortable because of leveraging technology.
- It is now possible to **set up power centres in rural India**, with the help of digital equipment and teach via video calls.

2. E-Learning and Online Assessment:

- E-learning and Online assessment technologies can help Skill Training Institutes to **automate key aspects of teaching, knowledge sharing and conduction online assessment.**
- Many skill training institutes have started taking advantage of technology to enhance, automate and scale up their operations.

3. The Ripple Effect:

- It's because of technology in one area that is acting as a multiplier effect in another. **IT has crossed the gap of possibility and desires.**
- Now, people can study with their mobile phones and help in spreading their knowledge with word of mouth.

4. Radio Studies:

- In certain areas, the farmers have started to develop skills with the help of an all timer radio that guides them about vegetation seasons, the kind of manure to be used, when to harvest and how much money to pay for it.

5. Cost Reduction:

- With digitisation and technological upgrades, it has become quite easy to manufacture content as well as distribute it without involving much cost. It's because of IT that set up costs have shot down, and **equipment requirements have also reduced.**
- Examples of such skills are: **Welding, Driving, etc.** which is possible with the help of video conferencing and also where addressing large audiences is quite convenient.

6. Real Time Data:

- With the aid of digital avenues, it has become quite easy to find real-time data that is up-to-date and upgraded.
- It's a better way to **equip attendees with new scenarios** rather than teaching them with ancient data that will not only disengage them but also be entirely impractical in the long-run.

7. Policy Formulation:

- Digital Platforms have helped in formulating policies and setting up **certain standards for skill supply, demand, the gaps, wage scales and compensations, etc.**
- It forms the basis of **resource planning and usage.** It is because of IT that judicious fruits can be borne by the skilled developer as well as the participant.

STEPS TAKEN BY THE GOVERNMENT FOR SKILL DEVELOPMENT:

- 1. PRADHAN MANTRI KAUSHAL VIKAS YOJANA:PMKVY** is the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE) implemented by **National Skill Development Corporation.** The objective of this **Skill Certification Scheme** is to enable a large number of Indian youth to take up **industry-relevant skill training** that will help them in securing a better livelihood.
- 2. PRADHAN MANTRI KAUSHAL KENDRA:** Under the “**Skill India Mission**”, MSDE has initiated the establishment of state of the art, visible, aspirational model training centres in every district of India. It also provides opportunity to trainer who wish to train someone in any particular area.
- 3. INDIA INTERNATIONAL SKILL CENTRE (IISC) NETWORK:**MSDE under the “Skill India Mission” has set up India **International Skill Centre (IISC)** to provide skill training and certification benchmarked to **international standards.**
- 4. TECHNICAL INTERN TRAINING PROGRAM (TITP):** created to enhance the **economic development** of countries participating in the program through the generation of **new employment opportunities.** This is achieved through the internship program and through On-the-Job Training.
- 5. SKILL IMPACT BOND:** Skill Impact Bond is a collaborative effort of NSDC and esteemed global organisations and people who share their vision to improve skilling outcomes in India.
- 6. SEEKHO AUR KAMA O:** The scheme entails **upgrading the skills of minority youth** in various modern/traditional skills depending upon their qualification, present economic trends and market potential, which can earn them suitable employment or equip them with skills to opt for **self-employment.**

7. **SKILLED WORKERS ARRIVAL DATABASE FOR EMPLOYMENT SUPPORT (SWADES)**- Aims to create a **database of qualified citizens bases on their skill sets** and experience to tap into and fulfil demand of Indian and foreign compromise for suitable placement opportunities.
8. **SWAYAM**- Designed by government to achieve three cardinal principles of education policy viz., **access, equity and quality, to take the best teaching learning resources to all.**
9. **CONSORTIUM FOR EDUCATIONAL COMMUNICATION (CEC)**- Its one of the inter-university centres setup by the **university grant commission.** It addresses the need of higher education through powerful media like television.
10. **NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL)**- Goal is to create **web and video courses** in all major branches of engineering and physical sciences at the undergraduate and postgraduate levels and management courses at postgraduate level.

WAY FORWARD:

INDIA is expected to have 34.33 in line with cent share of youngsters in overall populace by 2030. There is a **want for skilled teens** within the discipline of science and technology within the COUNTRY so that their talent in numerous tasks can be completely utilized. Skill development programmes are being carried out with the aim of connecting massive youth populace in diverse technology and era related businesses.

There is need for skilling, reskilling and upskilling of persons to participate in the global knowledge economy driven by emerging technologies. Technology has always been the cause of innovation and invention. From data planning to its produce, one can't outlook how technology is always there every step of the way. Science and technology has made it **easy to travel boundaries and not be limited with physical geographies.** It is because of digitisation that one can even dream of receiving the world-class education from experts sitting at a location unexplored on the world-map. So let's thank technology for its mighty power and cost cuts that allow it to inspire talents. *(1400 Words)*

