

SECTION-A

2.

RISE OF THE MACHINES :

AN OPPORTUNITY OR THREAT TO HUMANITY

Man's nature will remain the same so long as he remains man. civilisation is only a coverlet beneath which this dominant beast sleeps lightly and ever ready to awake. To preserve civilisation, we must deal scientifically with this brute element. Till the point where humans make machines part of their humanity, civilisation will progress. The moment machines are made to undermine humanity, civilisation cannot survive. Today, with growing population and increasing technology, machines have made life simpler, faster and more meaningful. At the same time, rising dependence on machines

are posing existential threats to humanity. The motive of public welfare has turned into greed, impacting the very foundations of peaceful life. However, there is still time to check the possible threats. There is still a promise of a joyful world.

FROM SEED TO CEDAR :

way back to 10000 B.C. , when early humans started using stones for hunting, machines developed. Around 8000 B.C. with the tilling of the earth for cultivation of crops, the Neolithic Revolution marked a watershed in human evolution. This was possible because of machines i.e. the tools used to till the soil. Then came the wheel which reduced distances and finally with the discovery of the steam engine during the Industrial Revolution of the 18th century, humanity saw

an unprecedented change. This change resulted in growth of production, creation of jobs and provided impetus to further improvements in machine technology. The machines evolved dramatically and now we are at the cusp of developing machines that can think and reason like us humans.

NO TIME LIKE THE PRESENT :

Our technology, our machines, is part of our humanity. We have created them to extend ourselves. The world is connected through communication cables which facilitate global trade, providing jobs to the people. Aeroplanes, ships and cross-continental trains facilitate movement of goods and human resources faster and safer. Food is being distributed to food scarce countries of Sub-Saharan

Africa from the food-surplus regions, preventing hunger and deaths. Computers are making official work more efficient while tele-medicine and tele-education facilities are helping the rural masses of these benefits. Mobile phones are helping businessmen keep their schedule tight and homemakers to learn new arts like cooking, dancing etc. The Electronic Voting Machines have ensured free and fair elections in some of the largest democracies of the world like India while machines for mass media like television, radio and computers have made the voters more politically aware. Nano-machines help deliver drug at the targeted region within the body and increase longevity while machines used to diffuse bombs help protect human lives. Besides, machines

used in mass production of goods help in economies of scale and hence lower costs, making the goods affordable to all. Thus, machines have helped in the rise of standards of people and helped humanity in prospering.

ALL THAT GLITTERS IS NOT GOLD :

Human barbarism as evident through civilisational wars, which resulted in loss of millions of lives, was made possible because of machines like the spears, the swords, the guns etc. Machines like fighter planes dropped the nuclear bombs on the Japanese cities of Hiroshima and Nagasaki during the Second World War. Proliferation of machine guns and tactical nuclear weapons have posed an existential threat to humanity. The

usage of computers and supercomputers to invade privacy of citizens through mass surveillance has eroded the moral foundations of humanity. The machines used in the industries are contributing to the emissions of the green House gases, which has led to global warming and climate change.

Very recently, a small island nation ^{Tuvalu} has asked Australia to provide it with some land to save its people from drowning because of climate change induced sea-level rise. The testing of hydrogen bombs and ballistic nuclear missiles by the irresponsible North Korean state poses threat of immense gravity to humanity. The rise in technology and resultant machines have automated most of the

work that was earlier done by humans. This automation has posed a livelihood threat to many workers around the globe. According to World Economic Forum report, the rise of robots and artificial intelligence will result in a net loss of 5 million jobs over the next 5 years in 15 leading economies of the world. Rising unemployment will create social tensions, increased crimes and loss of lives. Thus, while rise in machines present a bright opportunity for the progress of humanity, there exists threats which need to be set aside.

CARPE DIEM :

Charles Darwin once said - "It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change."

We must respond to the potential threats

of rise in machines in a unified way.

At the international level, the United Nations General Assembly must pass a resolution on peaceful and human-centric use of machines. The developed countries must ensure that with automation, the human capacity should also be enhanced. The developing nations must frame policies that protect the livelihood of its workers. The international community must condemn machines used as weapons of mass destruction. Environmental-sensitive machines should be developed that ensure sustainable development like solar roof-tops, wind-farms etc.

At the national level, nations must follow specific policies and implement laws

that ensure that machines should be developed keeping in mind their benefit for humanity. They must protect the livelihood of their workers by making legal provisions that restrict the layoff of industrial workers on account of automation. Further, the changing skills-set should be imparted to the youth to keep them prepared for any future exigencies. India has already taken the lead to skill its youth through the Skill India Mission and Pradhan Mantri Gram Kaushal Yojana to cater to the changing needs of the industry.

On a regional and individual level, every society must emphasize on moral values so that the people become ~~a~~ conscious citizens and help in developing new and more efficient

machines for the good of all. The people must enhance their capacity and devise new solutions for the threats posed by rising automation. Self-employment should become the norm. grass-root innovations should become the goal of the people because a rolling stone gathers no moss.

HOPE SPRINGS ETERNAL :

There is no denial that machines are becoming more and more efficient and perfect. But if men have the talent to invent these machines that put men out of work, they also have the talent to put those men back to work. The more pertinent need of the hour is to invent the machines for serving humanity.

Sure, the threats posed by newer machines are existential but I believe that if we behave responsibly and thoughtfully,

we might lead to further progress of our civilisation, a civilisation where human lives are prioritised over greed for wealth. Science is a beautiful gift to humanity and if not distorted, it is bound to bring peace and prosperity in the world. In the words of Late Dr. APJ Abdul Kalam :

“Where there is righteousness in the heart,
There is beauty in the character.
When there is beauty in the character,
There is harmony in the home.
When there is harmony in the home,
There is order in the nation.
When there is order in the nation,
There is peace in the world.”

I have faith in the people. I am optimistic that we will take best possible actions for our collective well-being. Because I believe that hope is our salvation.

3.

EDUCATION SYSTEM IN INDIA - A Leveller or a Source of Inequality

India is a civilisational nation, one which has a glorious past. From the cave paintings of Bhimbetka to the seals of the Indus Valley civilisation to the Vedas and the Sangam literature, to the marvellous architecture of the medieval times and finally to the precocious engines of economic growth of the present times — the one thing that stands out is the artistic expression and finesse in every field. This is the testament of a sound education system that the country had in the past and is having in the present.

There are, however, certain elements that had bogged down the educational system of the past and that are letting down the aspirations of the people in the contemporary times. These elements are also the gift of our cultural heritage and despite taking measures to remove the shortcomings, we are yet to evolve an educational system suited to our national objective of socially-inclusive economic growth. The effects are worrisome - low-skilling, unemployment, social tensions, increasing inequality. However, new forces have emerged like internet, smartphones that may complement a reformed education system of our country. If we make extra-efforts to streamline our education system with our needs using appropriate solutions available, we will emerge as a sound knowledge-based society and

economy.

A PEEK INTO THE PAST :

The education system in the ancient India ^{was} mostly based on religious teachings and mathematics. This system was known as the Gurukul System. Under this, students used to learn under the guidance of their Gurus (teachers) while living in ashrams, away from the home. The teachers considered all the students equals and their personal life had nothing to do with their student life. In this way the system sought to be an equalising institution. However, the exclusion of women and shudras (the lowest rung among the hierarchy of the Varna system) was not ^{only} a source of inequality but also of gross injustice. For example, Eklavya was a fine

archer but he was denied training by Guru Dronacharya, because he belonged to a tribal family.

Though the Gurukul System continued during the medieval period (6th century AD - 16th century AD), the Muslim rule introduced the Madarsa System where the tenets of Holy Quran and Hadith was imparted to the Muslim pupils. The exclusion of women continued in this system as well. Even the female members of the royal families could not have formal education in Gurukuls or Madarasas. The coming of the Christian Missionaries during the British Rule resulted in education of tribal masses. But this education was based on the teachings of the Bible. The country also produced great mathematicians like Bhaskara, Brahmagupta and Aryabhatta

and numerous works on astronomy or astrology, but the education system revolved around religious teachings mainly.

MACAULAY AND AFTER :

Thomas Babington Macaulay in the year 1835 issued the 'Macaulay's Minute' which declared that English should become the medium of instruction for education in India. English language brought with it the western ideas of equality, liberty and fraternity. The rigid traditional education system was shattered. English schools were opened for all irrespective of class, caste or gender. J.D. Bethune founded the Native Female School for girls in Calcutta in 1849. In Maharashtra, Jyotirao Phule and his wife Savitribai Phule pioneered education for the women and depressed classes. Thus, it

can be seen that after the Macaulay's Minute, steps were taken to make the education system available for all.

FREEDOM STRUGGLE AND EDUCATION:

When Mahatma Gandhi gave a call for 'Swadeshi' during the Non-cooperation movement of 1920s, a number of native schools sprang up across the country, where education in vernacular was emphasised. A National Education Board was constituted to frame the education policy for an independent India. By this time, education system was seen as a leveller. It was believed that only education can take Indians on the path of self-reliance and rapid growth. All the people - irrespective of caste, religion and gender - was

allowed to acquire knowledge. The education imparted was more focussed on rational, humanistic and scientific principles. It produced personalities like dynamic Subhas Chandra Bose, champion of the depressed classes Dr. B.R. Ambedkar and former President of United Nations General Assembly Vijaya Lakshmi Pandit.

The reformed education system enabled the people to spread the feeling of oneness and fraternity among themselves. It also acted as a major force against the British Raj. The people of one part of India could convey their thoughts to the people of other parts.

Thus, the education system during this period emerged as secular and more inclusive. However, because of mass poverty, only the elites could access this system.

TRYST WITH DESTINY AND BEYOND :

After getting independence in 1947, our national leaders attached great importance to education. In 1986, the Education Policy was adopted, which envisaged free and compulsory education of satisfactory quality for all children below 14 years of age. Thus, education was made universal.

The system focussed more on rote learning and fact-based education. It ~~lacked~~ lacked scope of specialisation till the higher secondary. Absence of vocational education resulted in absence of skills among the students and poverty ensured higher dropout rates. Patriarchy and gender stereotyping kept girls away from schools. Thus, the motive was to

provide education, it was not directed at producing desired outcomes.

The technical education like engineering, medicine etc. are not accessible to all because of limited number of seats and high costs. The quality of technical education has dropped to such levels that our universities are not among the top 250 universities of the world (Times Higher Education Ranking, 2016). The industry body ASSOCHAM claims that 80% of Indian graduates are unemployable directly because of lack of skills and hands-on training. The proliferation of coaching centres for entrance tests training has made getting admission into the premier technical institutes virtually impossible for poor and rural students.

There is another problem associated with higher education in India — skewed boys to girls ratio in colleges. For examples, there is 1 girl ^{student for} every 10 boys students in the Indian Institutes of Technology on average.

PUBLIC VS PRIVATE SECTOR :

The government is constrained to provide good quality primary, secondary and tertiary education to the students. At present, less than 1.5% of the GDP is allocated for the education sector. There is thus demand for increased role of private sector in the education sector. It is hoped that while government should only regulate the private institutions, the responsibility of imparting quality education should be left to the private sector. The recent Annual Survey of

Education Report (ASER), 2016 highlights that education outcomes in public schools is very poor as compared to private schools. Also, private schools and colleges will lead to increased competition and consequently the standards of education would go up.

However, all that glitters is not gold. The private sector's motive is only profit while the nature and objective of imparting education is social progress. The concentration of private colleges in urban centres like NCR, Pune, Bangalore etc highlights it very well. The high capitation fees demanded by private institutions undermine merit system.

Therefore, while government must focus on strengthening the education system, an effective regulation of the private sector is

a must. This will make the education system accessible, affordable and of quality. It will help in ensuring equality and putting an end to elitism in education.

CASE FOR MORAL EDUCATION :

With rising instances of intolerance like attacks on people in the name of beef-eating, social evils like Bengaluru's mass molestation and corruption among public officials, the education system must imbibe moral values inculcation among the students. The true outcomes of socio-economic development will only be achieved through value-based education that focuses on both technological proficiency and character building.

DEMOGRAPHIC DIVIDEND — 'CARPE DIEM' :

The government must enhance budget allocation for the education sector from the present 1.4% to 3-4% of GDP. The reservation policy for women must be implemented in higher educational institutions. The curriculum should be revised to meet the demands of the present times — 4th Industrial Revolution, Artificial Intelligence, Quantum Cryptography etc. Vocational and skill training should be made compulsory till the higher secondary. Increased recruitment of quality teachers as well as teaching infrastructure should be improved. The country has excelled in knowledge economy and is rightly called as the 'Services Dominant Economy'. The above reforms as regards the education sector has the

potential to make India, equitable and inclusive society.

We must understand that education is the foundation upon which we build our future. It is the most powerful weapon which one can use to change the world. Our education system, with the proposed reforms, would help in building intelligence and character in the people of the country. This would certainly make India the global super-power, not only in terms of military but also morality, not only in terms of economics but also ethics. It will be a leveller and a source of social justice. It will be the movement from darkness to light.

'LET THERE BE LIGHT'