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RECENT DEVELOPMENTS IN SCIENCE & TECHNOLOGY

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Abstract

Development, whether it is human development or country development, is linked to the proper growth and development of the technology in many ways. Technological advancement happens when there become new inventions in the science by highly skilled and professional scientists. We can say that technology, science and development are equally proportional to each other. Development in the science and technology is very necessary for the people of any nation to go hand in hand together by the people of other countries. In order to enhance the economy and betterment of the people of any nation, up-to-date knowledge, technology, science, and engineering are the fundamental requisites. A nation can be backward and the chances of being developed country become minimal in the lack of science and technology.

Keywords: Science, Technology, Development, Inventions.

INTRODUCTION

As we all know that we live in the age of science and technology. The life of every one of us is highly depends on the scientific inventions and modern day technologies. Science and technology has changed the lives of people to a great extent. It has made life easy, simple and fast. In the new era, the science development has become a necessity to finish the era of bullock cart and bring the trend of motorized vehicles. Science and technologies have been implemented to the every aspect of modernization in every nation. Modern gadgets have been introduced to every walk of life and have solved almost all the problems. It was not possible to have all the benefits of it without implementing it in the sectors like medicines, education, infrastructure, electricity, aviation, information technology and other field. Villages are getting developed to towns and towns to cities thus expanding the greater horizons of economy. Our country India is a fast developing country in the sense of science and technology.

SCIENCE & TECHNOLOGY: A UNIVERSAL NEED

Science and technology has become a debated topic not in the global society. On one hand, it is necessary for the modern life where other countries are continuously developing in the field of science and technology. It becomes very necessary for other countries too to grow in the same way to be strong and well developed like other countries for the future safety and security. It is science and technology which helps other weak countries to develop and be strong. We have to take support of science and technology forever to improve the way of life for the betterment of mankind. If we do not take the help of technologies such as computer, internet, electricity, etc we cannot be economically strong in the future and would be backward forever even we cannot survive in such a competitive and technological world.

INDIAN PERSPECTIVE IN THE DEVELOPMENT OF SC. & TECHNOLOGY

Advancement in the field of medical, agriculture, education, economy, sports, games, jobs, tourism, etc are the examples of science and technology. All such advancements show us that how both are equally beneficial for our life. We can see a clear difference in our life style while matching the ancient and modern way of life. High level of scientific and technological advancement in the field of medicine has made easy the treatment of various lethal diseases which was earlier not possible. It has helped a lot to the doctors to find effective ways to cure diseases through medicine or operations as well as research vaccines to cure diseases such as **cancer, AIDS, diabetes, Alzheimer's, Leukemia, etc.**

Some examples of the advancement in the technologies are establishment of railway system, metro system, railway reservation system, internet, super computers, mobiles, smart phones, online access of people in almost every area, etc. Government of India is creating more opportunity to the space organization and several academic institutions (Indian Association for the Advancement of Science) for the better technological growth and development in the country. Some of the renowned scientists of the India who have made possible the technological advancement in India (through their notable scientific researches in the various fields) are :

Sir J. C. Bose, S. N. Bose, C. V. Raman, Dr. Homi J. Bhabha, Srinivasa Ramanujan, father of India's nuclear power, Dr. Har Govind Singh Khorana, Vikram Sarabhai, etc.

India has become an important source of the creative and foundational scientific developments and approaches all across the world. All the great scientific discoveries and technological achievements in our country have improved the Indian economic status and have created many new ways to the new generations to grow in the technologically advanced environment. There are many new scientific researches and development has been possible in the field of:

Mathematics, Architecture, Chemistry, Astronomy, Medicine, Metallurgy, Natural Philosophy, physics, agriculture, health care, pharmaceuticals, astrophysics, nuclear energy, space technology, applications, defense research, biotechnology, information technology, electronics, oceanography and other areas.

RECENT ADVANCES: ISRO TO TEST LAUNCH GSLV-MK III-D1

ISRO is all set to undertake the first developmental flight of a ‘game-changer’ rocket (launching vehicle) in May, 2017 that will have the capacity to launch four-tonne class of satellites, from Sriharikota spaceport. ISRO looks forward to conduct the second developmental flight within this year.



SOLAR CALCULATOR APP

ISRO has launched a solar calculator app that can calculate the benefits of installing solar panels in different regions of the country. The app has been created by the Space Application Center (SAC) facility of ISRO following the Ministry of New and Renewable Energy (MNRE)’s request. The app comes handy for installation of Photovoltaic (PV) for tapping of solar energy.



BRAVO ROBOT

TAL Manufacturing Solutions, a wholly owned subsidiary of Tata Motors has unveiled India’s first ‘conceptualized, designed and manufactured articulated industrial robot’ called “BRABO”. BRABO stands for “Bravo Robot”. The robot has been developed indigenously for micro, small and medium enterprises (MSME) in India. The robot is primarily developed to complement the human workforce and repeatedly perform high volume, dangerous and time-

consuming tasks ranging from handling of raw materials to packaging of finished products. BRABO was designed and manufactured at the TAL's Pune factory.



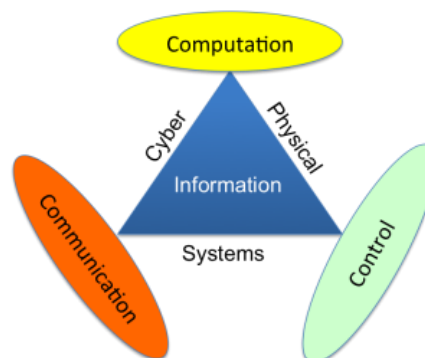
DISCOVERY OF PROTEIN: PORB

Scientists from Boston University School of Medicine, US have discovered a protein called PorB that could help make vaccinations more effective and provide protection from diseases such as cancer. The discovery may lead to greater understanding of how vaccine enhancers work. It can also be used to help body identify and fight off bacterial infections and also potentially to use its own machinery to fight off other diseases like cancer, HIV, and influenza before they establish.



CYBER PHYSICAL SYSTEMS (CPS) PROGRAMME

Department of Science and Technology (DST) has launched Cyber Physical Systems (CPS) programme dealing with self-driven cars, autonomous unmanned vehicles and aircraft navigation systems. The programme is still at a nascent stage. Rs. 3,000-crore has been conceived for it and it will first take root in some of the Indian Institutes of Technology (IITs).



CPS is an interdisciplinary field that deals with the deployment of computer-based systems that do things in the physical world. For example, self-driven cars produced by Google and Tesla. It is a mechanism controlled or monitored by computer-based algorithms, tightly integrated with the internet and its users.

Autonomous unmanned vehicles (UAVs) and aircraft navigation systems and smart grids (where electricity is optimally distributed on the basis of calculations in real time by micro-processors) also qualify as CPS.

FUNGUS THAT EATS PLASTIC

Scientists from Chinese Academy of Sciences (CAS) have identified a soil fungus *Aspergillus tubingensis* that uses enzymes to rapidly break down plastic materials. The plastic-eating fungus was found Islamabad, Pakistan. The new discovery in an advance can help to deal with plastic waste problem that threatens our environment in safer and more effective way.



NEW WAY TO FIGHT DRUG RESISTANT SUPERBUGS

Scientists from the University of Birmingham and Newcastle University in the UK have new way of removing antibodies from the blood stream. This method has potential to reduce chronic infections that may help humans in the fight against drug resistant superbugs. Scientists had used a process known as plasmapheresis that is somewhat like kidney dialysis. It involved the removal, treatment, and return of blood plasma from circulation. It was done five times in a week in order to remove antibody from two patients with bronchiectasis who had suffered with chronic *Pseudomonas aeruginosa* infections resistant to many antibiotics. Using this process, scientists replaced antibodies in these patients with those from blood donations. This treatment restored ability for the patients' blood to kill their infecting *Pseudomonas aeruginosa* infections.



PROSTHETIC LIMBS

Researchers including Indian origin from University of Glasgow have developed new prototype prosthetic limbs having solar-powered skin. The solar-powered skin will give amputees with prosthetic limbs a better sense capabilities of touch, temperature and texture compared to battery powered prosthetics. The technology also has potential to increase the functionality of robots, allowing them to have a better understanding of what they touch.



INGESTIBLE 3D-PRINTED SNAKE-LIKE ROBOT

Scientists have developed a tiny, ingestible 3D-printed snake-like robot called SAW (single actuator wave-like robot), that can navigate through the small intestines. The snake-like tiny robot was made from a set of interlocking 3D-printed “plastic” pieces that look like vertebrae. The robot moves in a wave-like motion and can travel through the extremely squishy environment of the small intestine. It can be used to visualise the digestive system in real time, especially for colonoscopies.



CONCLUSION

Introduction of scientific researches, ideas and techniques to the field of education has brought a huge level of positive change in the new generation and provided them variety of new and innovative opportunities to work in the field of their own interest. Modern science in India has been awakened by the continuous and hard efforts of the outstanding scientists. Scientists in India are great who have made possible the scientific advances of highest international caliber.

After the independence, our country has been involved in the promotion of spread of science for the national development. Variety of policies made by the government has emphasized the self-sufficiency and sustainable growth and development all through the country. Science, Engineering and technology have impacted the economic growth and social development in the country in extraordinary manner.

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