

**GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA**

UNSTARRED QUESTION NO:4741

ANSWERED ON:08.12.2010

DISCOVERIES IN S & T

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Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) the details of the new discoveries made in the field of Science and Technology (S&T) during each of the last three years and the current year;
- (b) the steps taken for commercialisation of these discoveries; and
- (c) the extent to which the Government has been successful in this regard?

Answer

MINISTER OF HUMAN RESOURCE DEVELOPMENT; MINISTER OF SCIENCE AND TECHNOLOGY; MINISTER OF EARTH SCIENCES; AND MINISTER OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (KAPIL SIBAL)

(a) Several significant achievements, including discoveries, have been made in the field of Science and Technology (S&T) in the country especially in space, biotechnology, medical sciences/ health care/ diagnostics, drugs and pharma, energy, defence, information/ communication technology, food etc. These include: silver nanoparticle based anti-microbial finish in fabrics, technology for continuous production of nanofiber webs of large widths at a linear speed; pulsed electrodeposition process for Ni and Ni-based composite coatings; a long decay luminescent powder; a smart eye for electronic remote; a portable ferrofluid based electric power; process for the preparation of high grade synthetic rutile and pig iron; a new botanical formulation for mosquito control; Calotropin, a new biolarvicide against vector of dengue; biomarkers for human ovarian autoimmunity, a process for production of silver nanoparticles using the fungus, *Pleurotus sajor-caju*; the synergistic mineral mixture for increasing milk yield in cattle; weather forecasting system etc. The number of applications filed by the Indian applicants for patents, as an indicator of new discoveries, during 2006-09 was 5314, 6040 and 6161 respectively which contribute approximately 17.3% of total number of applications filed in the country.

(b) & (c): Government has taken significant measures to promote innovation and its subsequent commercialization. Technology Incubation and Development of Entrepreneurs, Support International Patent Protection in Electronics and Information Technology (IT), National Science and Technology Entrepreneurship Development Board (NSTEDB), New Millennium Indian Technology Leadership Initiative (NMITLI) are some of the schemes aimed to nurture technology incubation, encourage and accelerate development of indigenous products and bridge the gap between R&D and commercialization. Government has also put in place a scheme which empowers researchers to have an equity stake in scientific enterprises / spin offs while in professional employment with their research and academic organizations. These steps are aimed for encouraging commercialization of the discoveries and lead to inculcating entrepreneurship culture in the country. There are several cases of commercialization such as nanosilver coated ceramic water filter candle; nanosilver suspension for anti-bacterial application; laser cutting, welding, drilling technologies; biotechnology for environmental-friendly control etc.