

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY**

**LOK SABHA
UNSTARRED QUESTION NO. 359
TO BE ANSWERED ON 24.07.2024**

Research Publications in Biotechnology and Biology

359 SMT. POONAMBEN HEMATBHAI MAADAM:

Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान और प्रौद्योगिकी मंत्री be pleased to state:

- (a) whether there has been an increase in research publications in biotechnology and biology;**
- (b) if so, details thereof;**
- (c) whether the Government is promoting patenting and technology transfer activities in the field of biotechnology and biology; and**
- (d) if so, the details thereof?**

ANSWER

**MINISTER OF STATE (INDEPENDENT CHARGE) FOR THE
MINISTRY OF SCIENCE AND TECHNOLOGY
(DR. JITENDRA SINGH)**

विज्ञान और प्रौद्योगिकी मंत्रालय के राज्यमंत्री (स्वतंत्र प्रभार)
(डॉ. जितेंद्र सिंह)

(a) & (b) Yes, over the years there has been a notable increase in research publications from India in the field of biotechnology and biology. According to the following SCImago Country Rank data, the number of research articles published from India in the biotechnology allied research fields has been consistently rising:

Year / Field of Research	2019	2020	2021	2022	2023
Agriculture & Biological Sciences	12648	14661	16376	17814	17929

Biochemistry, Genetics and Molecular Biology	15257	19615	21848	23121	25130
Immunology & Microbiology	3600	4378	5773	6114	5907

(c) & (d) Yes, the Government has been actively promoting patenting and technology transfer activities in the field of biotechnology and biology. Department of Biotechnology (DBT) has been instrumental in funding research and development in biotechnology. DBT supports initiatives that aim to enhance patenting culture and technology transfer in the biotechnology sector. Also, Biotechnology Industry Research Assistance Council (BIRAC) a Public Sector Enterprise, set up by DBT, promotes and nurtures innovation research in biotech enterprises, particularly in areas where government intervention is needed. BIRAC facilitates technology transfer and supports patenting activities among biotechnology startups and researchers. In the year 2023, DBT notified “DBT Intellectual Property Guidelines 2023”, outlining the principles and procedures for managing and transferring intellectual property (IP) generated through publicly funded research in India. The guidelines emphasize the importance of disseminating research knowledge for the public good and aim to facilitate the seamless transfer of IP from academic institutions and research laboratories towards technology transfer & commercialization for broader societal impact. Following data from the 2022-23 Annual Report of the Office of the Controller General of Patents, Designs, Trademarks, and Geographical Indications, Government of India shows that over the years, there has been significant growth in filing of patent applications in the areas of Biotechnology, Biochemistry and Microbiology:

Field of Invention / Year	Biotechnology	Biochemistry and Microbiology
2018-19	882	583
2019-20	1065	459
2020-21	3368	820
2021-22	3530	907
2022-23	3758	1697
