

**GOVERNMENT OF INDIA
MINISTRY OF CHEMICALS AND FERTILIZERS
DEPARTMENT OF PHARMACEUTICALS**

RAJYA SABHA
UNSTARRED QUESTION NO. 182
TO BE ANSWERED ON THE 2nd DECEMBER, 2025

Advanced technologies in pharmaceutical sector

182 Shri Babubhai Jesangbhai Desai:

Will the Minister of **Chemicals and Fertilizers** be pleased to state:

- (a) whether Government is planning to use the advanced technologies such as artificial intelligence (AI), blockchain, big data analytics and related digital tools which can play a significant role in enhancing efficiency, innovation and transparency in the pharmaceutical sector of the country; and
- (b) if so, the details thereof and the various steps taken or proposed to be taken by Government to promote adoption of such emerging technologies for research, manufacturing, quality assurance and supply chain management in the pharmaceutical industry?

ANSWER

THE MINISTER OF STATE IN THE MINISTRY OF CHEMICALS AND FERTILIZERS

(SMT. ANUPRIYA PATEL)

(a) and (b): Yes, sir. The Department of Pharmaceuticals has launched the scheme for Promotion of Research and Innovation in the Pharma Medtech sector with a view to promote research and development in the pharmaceutical sector, including in the areas of artificial intelligence (AI) and machine learning. Further, the National Institutes of Pharmaceutical Education and Research under the aegis of DoP have introduced topics related to AI and block chain technology in their courses and provide training to students in AI-based tools to build human resource capacities in these areas for the pharmaceutical sector. In addition, the Council of Scientific and Industrial Research (CSIR) under the Department of Scientific and Industrial Research, through its constituent laboratories such as CSIR-Central Drug Research Institute, Lucknow, CSIR-National Chemical Laboratory, Pune and CSIR-Indian Institute of Chemical Technology, Hyderabad employ advanced technologies such as AI-assisted drug discovery pipeline, advanced machine learning and deep learning techniques to enhance efficiency, innovation and transparency in the pharmaceutical sector. Apart from the above, the Department of Biotechnology supports AI-based research activities in the biotech sector, particularly in the healthcare and agriculture areas, in order to leverage emerging technologies for these sectors. Furthermore, the Pharmaceuticals and Medical Devices Bureau of India, which implements the Pradhan Mantri Bhartiya Janaushadhi Pariyojana scheme of the Department of Pharmaceuticals, has undertaken a pilot project to evaluate the feasibility of a block-chain-based track-and-trace system for the scheme.
