GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO – 1287
ANSWERED ON 31/07/2025

BARC COLLABORATION WITH ODISHA INSTITUTIONS

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Will the PRIME MINISTER be pleased to state:-

(a) the details of collaboration held between Bhabha Atomic Research Centre (BARC) and Odisha institutions, and the areas involved for research;
(b) the impact on science education, the details of fund provided; and
(c) the future tie-ups planned thereof?

ANSWER

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH)

(a) Bhabha Atomic Research Centre (BARC), a constituent Unit of Department of Atomic Energy (DAE) through Board of Research in Nuclear Sciences (BRNS) has collaborated for multiple research projects with various institutions in Odisha. The collaborating institutions from Odisha with number of research projects are listed below.

Sr No.	Institutes	No. of Research Projects
1.	Maharaja Sriram Chandra Bhanjadeo University, Baripada, Odisha	4
2.	NIT Rourkela, Odisha	2
3.	Ravenshaw University, Cuttack, Odisha	1
4.	C V Raman Global University, Bhubaneswar, Odisha	1
5.	ICAR - National Rice Research Institute, Cuttack, Odisha	1
6.	Fakir Mohan University, Nuapadhi campus Balasore, Odisha	1

7.	Berhampur University, Bhanja Bihar, Odisha	1
8.	National Institute of Science Education and Research (NISER), an Aided Institute of DAE.	-

Additionally, an Advance Knowledge and Rural Technology Implementation (AKRUTI) centre has been set up at Sambalpur GM University for demonstration and dissemination of rural technologies of DAE.

These research projects cover a wide range of scientific fields which includes:

1. Crop Improvement-related research for new salt & draught tolerant rice, multi-location trails.
2. Identification and quantification of different volatiles for plant growth promotion and soil borne pathogen management.
3. Identifying and understanding the molecular targets for resistance in head and neck cancer in response to cisplatin.
4. Development and testing new materials for special catheters.
5. Movement of fluoride through groundwater and how it affects water quality.
6. Research and Development (R&D) on smart materials for sensors and surfaces that kill germs.
7. R&D on better tools to detect diseases like malaria.
8. New materials for batteries and energy storage.
9. Developing advanced materials for electrocatalyst for Hydrogen Evolution Reaction (HER) aiming for reduction in overpotential.

These projects collectively demonstrate a strong thrust in applied and fundamental science across domains like healthcare, agriculture, environment, and materials.

(b) These projects provide students and young researchers' opportunity to learn through real lab work and practical experience. This opportunity provides hands on experience on advanced tools and techniques, like working with microscopes, synthesizing materials, or analyzing chemicals under the expert guidance of scientists from DAE. The training builds scientific temperament and problem-solving skills among the students thus enhancing R&D ecosystem in the country.

Collaborative efforts in developing advanced materials for the Hydrogen Evolution Reaction (HER), particularly those aimed at reducing overpotential, have profound implications for science education. By integrating real-world, solution-driven research into academic settings, students and early-career researchers are exposed to inter-disciplinary learning across chemistry, materials science, and renewable energy technologies.

During last 5 years, BRNS has sanctioned 11 no. of research projects to academic institutions in Odisha state and released a grant of Rs. 3.72 Crores.

(c) Future collaboration between BARC and Odisha Institutions depends on future requirements and mutual interests in diverse areas of nuclear agriculture, healthcare, food preservation, basic research etc.

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