

**GOVERNMENT OF INDIA
HUMAN RESOURCE DEVELOPMENT
LOK SABHA**

STARRED QUESTION NO:411
ANSWERED ON:08.12.2010
AVAILABILITY OF NUCLEAR PERSONNEL
Semmalai Shri S.

Will the Minister of HUMAN RESOURCE DEVELOPMENT be pleased to state:

- (a) whether there are sufficient institutions in the country at present imparting education in nuclear science;
- (b) if so, the names of the Central Universities offering courses on nuclear science at present;
- (c) whether the Ministry proposes to devise any mechanism in consultation with the Department of Atomic Energy (DAE) to introduce new/upgrade the existing courses in nuclear science and also set up laboratories in universities and colleges;
- (d) if so, the details thereof; and
- (e) the steps being taken by the Government to meet the emerging requirements of trained personnel in nuclear science in the country?

Answer

MINISTER OF HUMAN RESOURCE DEVELOPMENT (SHRI KAPIL SIBAL)

(a) to (e): A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF LOK SABHA STARRED QUESTION NO. 411 FOR 8.12.2010, ASKED BY SHRI S. SEMMALAI, HON'BLE MEMBER OF PARLIAMENT, REGARDING AVAILABILITY OF NUCLEAR PERSONNEL.

(a) to (e): A number of higher educational institutions, including the Central Universities mentioned in Annexure-I, offer courses in Nuclear Sciences. The UGC-DAE Consortium for Scientific Research, an autonomous institution of the University Grants Commission (UGC), provides an interface between university researchers and various institutes under the Department of Atomic Energy (DAE). The Mumbai Centre of UGC-DAE Consortium for Scientific Research (UGC-DAE CSR) in collaboration with the Solid State Physics Division (SSPD), Bhabha Atomic Research Centre (BARC), has been promoting and supporting neutron beam research among researchers from various universities and other research organizations. The UGC-DAE CSR, Indore provides the faculty and Ph.D. students in the various educational institutes, access to experimental nuclear facilities at Variable Energy Cyclotron Centre (VECC) of Department of Atomic Energy at Kolkata. This Consortium also provides access to the experimental nuclear science facilities at Pelletron in Tata Institute of Fundamental Research (TIFR), Mumbai. The UGC has in addition, set up an Inter-University Centre (IUC) namely, Inter-University Accelerator Centre (IUAC) at New Delhi with a dual role i.e. to establish world class accelerator along with experimental facilities and to create adequate infrastructure to enable university community to undertake internationally competitive research.

Department of Atomic Energy (DAE) has followed a comprehensive policy to develop competent scientists, engineers and technical personnel to support the nuclear programmes in India. To meet the growing needs for scientific manpower for the expanding atomic energy programme, additional Bhabha Atomic Research Centre (BARC) training schools have been established at Raja Ramanna Centre for Advanced Technology (RRCAT), Indore; Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam; Nuclear Fuel Complex (NFC), Hyderabad; and five centres of Nuclear Power Corporation India Limited (Rawatbhata, Kalpakkam, Kudankulam, Tarapur and Kaiga). Over the last fifty two years (1957-2009), about 8000 scientists/engineers in various disciplines have been trained in Nuclear Science and Engineering in the Training Schools. About 300 scientists and engineers are trained every year in Nuclear Science and Technology in all these School Centres of DAE.

In order to strengthen the academic base of DAE research program, Homi Bhabha National Institute (HBNI) at Mumbai, was conferred with the deemed University status under Section 3 of the UGC Act in June, 2005. It has ten constituent institutions, details of which are given in Annexure-II.

In order to meet the demand for trained personnel in nuclear sciences, a scheme called "DAE Graduate Fellowship Scheme (DGFS)" is also being operated in collaboration with select Indian Institutes of Technology (IITs), wherein some of the graduate engineers selected through Training School undergo two-years M.Tech. programme in these IITs and are absorbed in DAE after successful completion of the programme. They also study nuclear engineering for one semester at BARC Training School after joining the Department. This has also strengthened the linkage between the DAE and various Indian Institutes of Technology. In addition, candidates having Ph.D in basic sciences or engineering are inducted as 'KS Krishnan Associates' and after working for a period of

one to two years in the organization, are screened for absorption in DAE.