THE MINISTER OF SCIENCE AND TECHNOLOGY (DR. MURLI MANOHAR JOSHI): (a) As per World Economic Forum's publication —"The Global Competitiveness Report 2001-2002," India is ranked 57th out of a sample of 75 countries, in the table of Growth Competitiveness Index (GCI) Ranking 2001. Yes, in order to obtain higher rank of India a system for competitiveness of both the service and manufacturing sectors needs to be evolved.

(b) and (c) As per the information provided by the Ministry of Home Affairs, there is a proposal for compulsory registration of citizens for issuing them multipurpose national identity cards.

Bio-Technology in agriculture sector

2630. SHRI URKHAO GWRA BRAHMA: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the details of achievements in application of Bio-Technology in Agriculture sector, especially in Rice, Horticulture and Sericulture;

(b) whether the Ministry has conducted any training programme in the country at the appropriate level, for the application of Bio-Technology in Agriculture; and

(c) if so, the details thereof?

THE MINISTER OF STATE IN THE DEPARTMENT OF SCIENCE AND TECHNOLOGY IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT): (a) Agricultural biotechnology has been accorded high priority since the inception of Department of Biotechnology. A number of programmes in this area since 1989, as R&D projects, the establishment of seven Centres for Plant Molecular Biology (CPMB) and large scale field demonstrations have been taken up. A number of multi-institutional projects on development of transgenics, quality improvement in wheat and rice have been initiated. Transformation system in important cultivars of rice has been developed successfully. Also, controlled open field trials of Bt-transgenic indica cultivar, IR-64 and Pusa Basmati-1 for resistance to yellow stem borer are likely to be conducted soon. Work on the other aspects like marker assisted selection for biotic and abiotic stress tolerance, bacterial leaf blight, DNA fingerprinting, hybrid rice production and development of Indian golden rice varieties has given important leads. In June 2000, India joined

International Rice Genome Sequencing Programme (IRGSP), a consortium comprising of ten countries. Sequence data of 8.8 Mb in the International Gene Bank against our commitment of 2.0 Mb has already been submitted. Complete regeneration/micropropagation protocols for important priority crops like Banana, Apple, Citrus, Litchi, Potato, Sugarcane etc. have been developed. The technology packages are available for Banana, Potato microtubers and minortubers and Sugarance. Demonstrations have been conducted in the farmers field for transfer of technology at grass root level. In the area of sericulture, an integrated pest management package (IPM) comprising uzicide and release of parasitoid (*Nesoynx thymus*) developed to control uzifly a serious pest of silkworm at farmers level has been successful. For quality improvement a process has been developed for degumming of silk with fungal proteases as valuable alternative. Under silkworm genome programme, more than 375 DNA markers have been developed and used for fingerprinting of solkworm.

(b) and (c) Regular training programmes/courses are being conducted in the area of agricultural biotechnology. All the CPMB's had an in-built component of training. In the area of biofertilizers/biopesticides more than 5000 training courses were organized during the last 5 years. At least six such courses in the area of tissue culture and biotechnology were conducted both by DBT and ICAR. These have to a great extent addressed the training requirements of the farming community.

Research in Nanotechnology

2631. SHRI SUNIL SHASTRI: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether Government have any plan to promote research in the field of Nanotechnology; and

(b) if not, the reasons therefor?

THE MINISTER OF STATE IN THE DEPARTMENT OF SCIENCE AND TECHNOLOGY IN THE MINISTRY OF SICENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT): (a) Yes, Sir. Government has launched a new programme titled 'Nanomaterials Science & Technology Initiative (NSTI)' to promote research and development in this field in the 10th five year plan.

(b) Does not arise.