Work on super vaccines

SURESH PACHOURI: 2195 SHRI Will the PRIME MINISTER be to state:

- (a) whether a genetically engineered hapatitis B-virus vaccine has been developed abroad; if so, what are the details thereof; and
- (b) whether any work in this new field has been undertaken in this country; if not, whether it is propose to undertake such research work in the field of supervaccines which are under development abroad?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECH-NOLOGY AND THE MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC **OCEAN** DEVELOPMENT, ENERGY, ELECTRONICS AND SPACE K.R. NARAYANAN): (a) (SHRI Yes, Sir. A genetically engineered Hepatitis-B virus sub-unit vaccine has been developed and produced using the microorganism yeast. This waccine called 'Hepatovax' has been approved for commercial sale in USA and some other countries. Based on results obtained so far, the genetically engineered vaccine appears comparable to the plasma derived Hepatitis-B vaccine.

(b) No, Sig. It is proposed to initiate R&D work towards producing genetically engineered Hepatitis B vaccine in Indian Laboratories such a National Institute of Virology, National Institute of Immunology and All India Institute of Medical Sciences.

Research and development work on monochloral antibodies

2196. SHRI SURESH PACHOURI: Will the PRIME MINISTER be to state:

(a) whether Government are aware that monochlonal antibodies specific for curing heart cancer, have been developed in some countries; if so, what are the details thereof:

(b) whether any similar research and development work is under way in this country; and

to Questions

(c) what is the estimated number cancer cases in this country and in world and what is our annual expenditure in research and development for cancer?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECH-NOLOGY AND THE MINISTER STATE IN THE DEPARTMENTS OF OCEAN DEVELOPMENT, ATOMIC ENERGY, ELECTRONICS AND SPACE (SHRI K. R. NARAYANAN). (a) No, Sir.

- (b) No Sir.
- (c) The estimated number of cases in India is 1.5 million and it estimated that 5.9 million people are affected by cancer every year throughout world.

The Indian Council of Medical Research has an outlay of Rs. 150 lakhs for the year 1987-88 on research and development for cancer.

University Industry co-ordination in country

2197. SHRI SURESH PACHOURI: Will the PRIME MINISTER be pleased to state:

- (a) whether Government are aware that Biotechnology revolution in the West been possible due to university-industry coordination; and
- (b) whether a similar co-ordination between ICAR CSIR ICMR etc. and industry exists in the country: if not, what are the reasons therefor and corrective steps proposed/taken?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECH-NOLOGY AND THE MINISTER OF STATE IN THE DEPARTMENTS **OCEAN** DEVELOPMENT, ATOMIC ENERGY, ELECTRONICS AND SPACE