

THE MINISTER OF STATE IN THE DEPARTMENTS OF SCIENCE AND TECHNOLOGY, ELECTRONICS AND ENVIRONMENT AND OCEAN DEVELOPMENT (SHRI CHANDRA PRATAP NARAIN SINGH): (a) and (b) The launch had to be postponed twice. It could not take place on 5th April, the first day of the launch slot, because of damage to the solar sail of the spacecraft. The next day, it had to be postponed again as the Advanced Range Instrumentation Aircraft (ARIA) of the US Government stationed at Ascension Island could not reach its station in time due to engine trouble.

(c) The following Indian officials had gone to the launch base for the launching of INSAT-IA:

(i) Prof. S. Dhawan, Secretary, Department of Space.

(ii) Prof. U. R. Rao, Chairman, INSAT-I Space-Segment Project Board.

(iii) Prof. E. V. Chitnis, Director, Space Applications Centre.

(iv) Prof. Jai P. Singh, Programme Director, INSAT.

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In addition, a number of Department of Space (DOS) INSAT-I Space-Segment Project technical specialists participated in the various phases of the INSAT-IA launch campaign from March 1st to launch. At the final phase of launch of six days there were six of these specialists present.

### "Computers in Devanagari"

364. DR. LOKESH CHANDRA:  
SHRIMATI AMARJIT KAUR:

Will the PRIME MINISTER be pleased to state:

(a) whether Government are aware of the long term Research and Development Scheme on "Pattern Information Processing System" to enable direct input of complex Japanese characters, patterns and speeches and information processing;

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(b) whether there is any similar scheme for development of Devanagari Computer System and associated application software; and

(c) if so, details of the personnel and budget specifically allocated for it?

THE DEPUTY MINISTER IN THE DEPARTMENT OF ELECTRONICS (DR. M. S. SANJEEVI RAO): (a) Yes, Sir.

(b) and (c) No, Sir. However, the Department of Electronics (DOE) has funded several technology development projects aimed at the development of Devanagari based data processing hardware and application software (*See Statement*). The total finances approved for these projects is Rs. 11.74 lakhs, and about 20 scientific and technical personnel are working on these projects.

**Statement**

*Technology Development Projects towards development of Devanagari based Data processing Hardware and Software*

(Rs. in lakhs)

Project Title	Budget	Technical personnel
1. Development of Devanagari based input-output devices—Bombay University	1.70	2
2. Development of Devanagari based programming languages—BITS, Pilani	4.11	4
3. Adaptation of IBM 1403 line printer for Devanagari—BITS, Pilani	1.94	2
4. Development of Character recognition techniques for Tamil and Devanagari Scripts—Madras Christian College	0.50	2
5. Computer Aided Translation from English to Hindi and Hindi to Kannada—IISc, Bangalore	2.89	2
6. Survey of requirements of Electronic composition in Indian Scripts—CMC	0.60	2
<b>TOTAL</b>	<b>11.74</b>	

BITS—Birla Institute of Technology and Science.

IISc.—Indian Institute of Science.

CMC—Computer Maintenance Corporation.

**Pollution of river system<sup>^</sup> by industrial wastes**

365. SHRI SYED SHAHABUDDIN:  
SHRI MANUBHAI PATEL:

Will the PRIME MINISTER be pleased to state:

(a) whether the attention of Government has been drawn to the article on the "Pollution of major river systems by metal wastes" in Ambio, a journal of human environment;

(b) which States in India have legislation on the control and regulation of industrial wastes;

(c) which States have got the monitoring facility for periodical

checking of the level of the pollution of the water system; and

(d) whether Government propose to introduce any legislation for the control of industrial effluents?

THE MINISTER OF STATE IN THE DEPARTMENT OF SCIENCE AND TECHNOLOGY, ELECTRONICS AND ENVIRONMENT AND OCEAN DEVELOPMENT (SHRI CHANDRA PRATAP NARAIN SINGH): (a) Yes, Sir.

(b) to (d) All the States except Orissa, Manipur, Meghalaya, Nagaland and Sikkim have adopted "the Water (Prevention and control of Pollution) Act, 1974 that regulates