

(b) if so, the details thereof;

(c) whether there are similar schemes in technical departments of Electronics, Space, Non-conventional Energy sources, Oceanography, Atomic Energy etc. if so, the details thereof; and

(d) if not, by when such a scheme is likely to be introduced in a uniform manner?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (PROF. M. G. K. MENON): (a) and (b) Yes Sir, Department of Science and Technology (DST) has such scheme. The objective of the scheme is to improve the work efficiency, performance quality and Productivity of the various officials, including scientists, working in DST. As per this scheme, an awardee is given a cash award of Rs. 1500 This award is normally given to a maximum of three persons once in two months. There is also a scheme in DST to award Cash prizes to various officials, including scientists, for doing their official work in Hindi as per the guidelines issued by the Department of Official Languages. Hindi week is celebrated each year and Hindi competitions are organised; prizes are given to the winner.

(c) and (d) Information is being collected and will be laid on the Table of the House.

#### Use of Sanskrit/Vedic Mathematics for Computer Based Systems

3032. SHRI KAILASH NARAIN SARANG: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that Sanskrit provides clues to design computer based systems for natural language understanding and translation and that vedic mathematics provides clues for designing graphic software and basic processing units, and if so, the details thereof;

(b) what are the conclusions of various workshops held on these topics and the programmes identified for this purpose;

(c) whether there is any status report on these topics and if so, the details thereof;

(d) if no, the reasons therefor; and

(e) by when it would be prepared and made available?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (PROF. M. G. K. MENON): (a) and (b) The Workshop on Sanskrit and natural language understanding held in Bangalore in 1986 had considered the investigations on Sanskrit for natural language understanding in computers. As a sequel to this, projects on Sanskrit Tutoring system are currently under way at Centre for Development of Advanced Computing (C-DAC), Pune and Jawaharlal Nehru University, New Delhi, which are expected to provide clues to the natural language understanding and translation.

There is no project at present on the use of Vedic Mathematics for designing graphics software and basic processing units.

(c) The following reports have been prepared on this topic.

(i) Synthesis of advanced computing technology and Sanskrit.

(ii) Sanskrit and Computers.

(iii) Paninian model for intelligent natural language processing.

(iv) Role of Sanskrit-Pratyayas in natural languages processing.

(v) Sanskrit sentence parser.

(vi) Paninian Grammar Platform.

(d) and (e) Do not arise.

#### Distribution of Electronic Industry in the Country

3033. SHRI KAILASH NARAIN SARANG: Will the PRIME MINISTER be pleased to state: