

**GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH**

**LOK SABHA  
UNSTARRED QUESTION NO. 1906  
(TO BE ANSWERED ON 30.07.2021)**

**DIVYA NAYAN DEVICE**

**1906. DR. MANOJ RAJORIA:**

**Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान एवं प्रौद्योगिकी मंत्री be pleased to state:**

- (a) the details and features of 'Divya Nayan' a device developed by Council of Scientific & Industrial Research (CSIR) for visually impaired people;**
- (b) whether it has been made accessible for the public and if so, the details thereof; and**
- (c) the details of such other devices developed by CSIR for the benefit of public?**

**ANSWER**

**MINISTER OF STATE (INDEPENDENT CHARGE) OF  
SCIENCE AND TECHNOLOGY AND EARTH SCIENCES  
(DR. JITENDRA SINGH)**

- (a) Divya Nayan is a personal reading machine for visually impaired developed by CSIR-Central Scientific Instruments Organisation (CSIO), Chandigarh where any printed or digital document can be accessed in the form of speech output. Based on the principle of contact scanning, it can analyse a multi column document and provide seamless reading. User can place the device over the document to be read and manually scan it. The reading device uses language dependent optical character recognition to convert the image into text and a text to speech converter, further converts the text into audio. Audio files are stored in the machine and can be listened back. The device is handheld, standalone, portable, completely wireless and IoT enabled. It is currently available in Hindi, English, Bengali, Telugu, Tamil, Kannada, and Punjabi but is further compatible for other Indian and foreign languages. It has interfaces such as USB, Bluetooth, Wifi, LAN, Headphone etc. The salient features of the device are as below:**

**Feature/s:**

- i. Wireless and Portable - standalone, completely wireless and IoT enabled;**
- ii. Multifunctional – read printed, e-books, e-news, recording and reading speech;**

- iii. **Multilanguage - currently supports Hindi, English, Bengali, Tamil, Telugu, Kannada and Punjabi;**
- iv. **Online Processing – document batch processing organisation;**
- v. **Document Storage – sync document;**
- vi. **Page orientation detection and correction;**
- vii. **Capable of reading Multi-Column document;**
- viii. **Rechargeable lithium ion battery; and**
- ix. **Internal memory of 32 GB for document storage**

**(b) Yes. The device is available to the visually impaired individuals and institutions through an online registration and booking portal <https://divyanayan.csio.res.in/registration.php> on its website. Additionally, 31 numbers of trainings have also been held in various Indian states.**

**(c) Some of the such other significant devices developed by CSIR for the benefit of the common man are as below:**

- i. **Myoelectric Hand for the persons having below elbow amputation;**
- ii. **Electronic Knee for the persons having above knee amputation;**
- iii. **Electronic Control Module for powered wheelchair; and**
- iv. **3D Printed Orthosis for children with congenital hemiparesis.**

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