

World's most sophisticated MRI facility inaugurated in Haryana

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In news– Recently, the Union Minister of State (Independent Charge) Science & Technology launched **first of its kind, latest, world's most sophisticated MRI facility at the National Brain Research Centre (NBRC)**, Manesar Haryana.

About new MRI facility–

- **With this facility, India embarks on new frontiers of human Neuroscience with a unique and powerful 3T MRI platform** of outstanding performance.
- **MRI Scanner Prisma from Siemens, Germany is being used by several international initiatives**, like Brain initiative of USA, the European human brain project.
- This new **facility can run intense scanning modalities very fast, which reduces the scanning time for patients** by almost a quarter from earlier generation machines.
- This is being used to **develop human cohort data for patients suffering from common brain and mental health disorders** including Parkinson's Disease, Alziemer's Disease, anxiety, depression, PTSD, bipolar, anxiety, depression etc.
- It **can detect and quantify highly sensitive receptors and antioxidants from the brain** which has a direct link with onset of various brain disorders like Alzheimer's, Parkinson's and psychiatric disorders.
- The **machine is equipped to detect brain sodium levels**, which has direct relevance for assessment of brain tumors non-invasively.
- **Also, heavy metal deposition in the brain** due to pollution or many other factors can be quantified as

necessary for various psychiatric and neurodegenerative disorders.

What is Magnetic Resonance Imaging(MRI)?

- **MRI is a medical imaging technique used in radiology to form pictures of the anatomy** and the physiological processes of the body.
- **MRI scanners use strong magnetic fields, magnetic field gradients, and radio waves to generate images** of the organs in the body.
- MRI is the most frequently used imaging test of the brain and spinal cord.
- It's often performed to help diagnose: Aneurysms of cerebral vessels, disorders of the eye and inner ear.

The National Brain Research Centre (NBRC)-

- NBRC is an **autonomous institute funded by the Department of Biotechnology**, Government of India.
- Govt. of India has recognised **NBRC as an Institution of Excellence**.
- It was established in the year 1999 as an autonomous institution under the Societies Registration Act of 1860.
- The NBRC, engaged in brain research, **has deemed University status**.
- NBRC is devoted to studying brain functions in health and diseases using innovative multidisciplinary approaches in basic and translational research.
- **Research at NBRC is classified into five divisions**, namely Cellular and Molecular, Systems, Cognitive, Computational, and Translational.