

Artificial Sun Nuclear Reactor

China on December 4, 2020 turned on its nuclear fusion reactor dubbed as an 'artificial sun', taking steps towards creating a clean and efficient source of energy.

The HL-2M Tokamak is located in Chengdu, Sichuan province. Scientists are hopeful that the CHina's success with the reactor will encourage other nations in creating more clean sources of energy in the future.

This article will give an article about the Artificial Sun Nuclear Reactor within the context of the Civil Services Examination.

How does the Artificial Sun Nuclear Reactor work?

The HL-2M Tokamak reactor uses powerful magnetic fields to fuse hot plasma. The temperature reaches 150 million celsius, which is more than the temperature of the actual sun. As per the Chinese state media, the new reactor will provide technical support to the International Thermonuclear Experimental Reactor currently being constructed in Marseilles, France.

The scientists who have created the reactor are set to raise the temperature to 360 degree celsius which in itself is considered a leap regarding fusion reactors.

What is the significance of the Tokamak reactor?

Regarding energy production, nuclear fusions is considered the pinnacle of success. For decades scientists have been working on reactors which can imitate the physics of stars by merging atomic nuclei. The massive amount of energy released can be converted to electricity

Unlike nuclear fission, the process used in nuclear power plants, it creates little radioactive waste and carries less risk of environmental disaster.

But research into such reactors is quite expensive which is why joint collaborations between nations are done to share the costs.

However, the apparent success of this reactor does show that it is possible to create nuclear reactors which can be helped in shifting away from conventional sources of energy such as fossil fuel at signican low costs.

