Critical Noise Treatment Algorithm

- Indian astronomers have developed an **algorithm that can increase the accuracy of data from exoplanets by reducing the contamination by the Earth's atmosphere and the disturbances due to instrumental effects and other factors** called the 'critical noise treatment algorithm'.
- A group of astronomers has been using the ground-based optical telescopes available in India and the data obtained by the space telescope 'Transiting Exoplanet Survey Satellite' or TESS.
- Following the photometric transit method, they have acquired photometric data from several planet hosting stars. However, **the transit signals are heavily affected by the noise due to various sources that pose a challenge to estimate the physical parameters of the planets accurately.**
- The developed **algorithm can treat the transit signals detected by both ground and space based telescopes with much better precision than ever before.** This algorithm can help to study the environment of exoplanets with better precision.
- The understanding of physical properties of exoplanets with extreme accuracy can help to explore the ones that could be similar to planet Earth and hence might be habitable.