

UPSC

Candidate must adhere to the word limit specified in the question.
Any page or portion of the page left blank must be clearly struck off.

इस हार्जिन
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उम्मीदवारों को
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1. NASA's Double Asteroid Redirection Test gives hope that technological advancement can prevent extraterrestrial threats. Explain.

NASA for very first time succeeded in directing away Asteroid, opening a new era of technology.

DART mission

Spacecraft DART (Double Asteroid Redirection Test), is targetted at Dimorphos asteroid that is circling Didimos asteroid, at 11.2 million km from sun.
Objective

1. using "kinetic impact" to direct away the asteroid from its position..
2. The Asteroid is at 6.4 mn km distance from earth. Does not pose any threat to Earth.
3. Main Objective is to ~~use~~ test the technology to direct away asteroid, for future missions.

Result

There was a 32 mins clination due to the impact of the spacecraft.

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Caution:

Every asteroid is not same, hence each one of them requires different test.

Other Nations - Similar mission.

China - is about to launch similar mission against Asteroid 2020 PN1 by 2026

Importance of Asteroid deflection tests

1. Past experience - chicxulub crater which hit earth 66 million years ago, destroyed 75% of animal & plant life
2. Even small change can bring drastic changes.

Extrapolation.

Earth is fraught with other dangers as well, most important & definite is climate change. These scientific technologies can be extrapolated to reduce the threat of climate change & make earth a safer place.

way forward.

whether the technology can be used to direct away the asteroid from their original birth area, remains unconvincing. Future experiments can explore such options for holistic solution.