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Indian astronomers have discovered a rare merger of three supermassive black holes

The Context

1. A team of astrophysicists in India have discovered an unusual merging of three supermassive black holes.
2. They were looking at the merging of two galaxies in our neighbourhood, NGC7733 and NGC 7734, when they saw anomalous emissions from the centre of the latter, as well as a strange movement of a massive luminous clump with a different velocity than NGC7733.
3. The scientists termed it NGC7733N after deducing that it was a distinct galaxy.

The Inferences

1. If two galaxies collide, their black holes will also collide, delivering kinetic energy to the surrounding gas, according to the Indian Institute of Astrophysics (IIA) research.
2. The distance between the blackholes shrinks with time until it is less than a parsec (3.26 light-years).

3. The two black holes are then unable to lose any more kinetic energy, preventing them from approaching each other and merging. The ultimate parsec difficulty is what it's called. This problem can be solved by the presence of a third black hole.
4. The energy of the two merging blackholes can be transferred to the third blackhole, allowing them to unite.

Source: The Hindu

Syllabus: prelims, GS 3 (Science & Technology)

Sugarcane: Rise in fair price

Context:

The minimum price that sugar mills must pay to cane growers has been increased by \$5 per quintal for the 2021-22 sugar season, bringing the fair and remunerative price (FRP) to 290 per quintal.

Sugarcane: The Pricing policy

1. The Central Government sets the cane price based on the recommendations of the Commission for Agricultural Costs and Prices (CACP), in cooperation with state governments and after receiving feedback from sugar industry organizations.

2. The Sugarcane (Control) Order, 1966, has been changed to allow the fixation of sugarcane FRP depending on the following criteria:-

- a) sugarcane production costs;
- b) the return to growers from other crops, as well as the general price trend of agricultural products
- c) sugar is available to consumers at a reasonable price;
- d) the price at which sugar producers sell sugar made from sugarcane;
- e) Recovery of sugar from sugarcane
- f) the profit from the sale of by-products such as molasses, bagasse, etc press mud or their fictitious worth
- g) Reasonable margins for sugarcane growers in terms of risk and profit

ETHANOL BLENDED PETROL PROGRAMME (EBP PROGRAMME)

- 1. Ethanol is an agro-based substance made primarily from molasses, a sugar industry by-product. The sugar industry is unable to pay farmers their cane prices on time when there is a surplus of sugarcane and prices are low.
- 2. The Ethanol Blending Program (EBP) intends to produce ethanol-motor spirit blends in the sugar industry in order to decrease pollution, conserve foreign exchange, and boost value addition, helping farmers to erase cane price arrears.

Source: The Hindu

Syllabus: Prelims; GS 3 (Agriculture)

Open Network for Digital Platform

Context:

1. To “democratise e-commerce” and “offer alternatives to corporate e-commerce sites,” the Union government is aiming to establish an Open Network for Digital Commerce (ONDC).
2. The plan is considered as a step toward reducing the dominance of platforms like Amazon and Flipkart to avoid monopoly power and breaching the law.

Details:

1. The ONDC (Open Network for Digital Commerce) project is based on the Unified Payments Interface (UPI) project
2. The UPI project enables consumers to send and receive money regardless of the payment platforms they are enrolled with.
3. E-commerce customers and sellers can transact regardless of the platforms on which they are registered.
4. As a result of ONDC, a buyer registered on Amazon, for example, can purchase goods directly from a merchant selling on Flipkart.
5. The government intends to shift the e-commerce market’s core structure from a “platform-centric model” to a “open-network model.”

The Need for such a platform

1. The government hopes that ONDC would remove the dominance of a few giant platforms in the e-commerce business.
2. According to the report, the e-commerce market is currently divided into “silos” that are controlled and dominated by these platforms. For example, Amazon and Flipkart have been accused of discriminating against sellers on their platforms and supporting seller companies in which they have indirect ownership.
3. The government intends to level the playing field by establishing an open network like ONDC that connects buyers and sellers across platforms. Buyers would be

able to access vendors across platforms without having to transfer between them, according to reports.

The criticism of such move:

1. For starters, even under today's platform-centric e-commerce paradigm, vendors are already free to offer their products across many e-commerce platforms. Buyers frequently shop on many platforms.
2. Then there are services like price comparison given by a variety of private websites, which assist shoppers bridge the knowledge gap and make smarter judgments. As a result, Amazon's and Flipkart's dominance of the e-commerce business may not be attributable to any captive grip these platforms have over shoppers and sellers. Furthermore, platforms' alleged "monopoly" may be no different.

The future

1. Finding an alternative to an e-commerce platform and making it work efficiently will be a greater task.
2. Another major issue that such an initiative may face is listing of all sellers and their authentication.
3. The quality and timely delivery will be a bigger challenge such initiatives will face.

Source: The Hindu

Syllabus: GS 3 (Economy)