Daily current affairs

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LIGO

- LIGO is the world's largest gravitational wave observatory and a cutting edge physics experiment.
- Comprising two enormous laser interferometers located thousands of kilometers apart.
- LIGO exploits the physical properties of light and of space itself to detect and understand the origins of gravitational waves

Interferometers

- interferometers are investigative tools used in many fields of science and engineering.
- They are called interferometers because they work by merging two or more sources of light to create an interference pattern, which can be measured and analyzed; hence "Interfere-ometer".
- The interference patterns generated by interferometers contain information about the object or phenomenon being studied.
- They are often used to make very small measurements that are not achievable any other way.
- This is why they are so powerful for detecting gravitational waves--LIGO's interferometers are designed to measure a distance 1/10,000th the width of a proton

Components of LIGO

Designing instruments like LIGO's interferometers, capable of measuring a distance on the order of 10-19 meters required inventing and refining innovative technology. Most of LIGO’s most impressive technology resides in its

1. seismic isolation systems (which remove unwanted vibrations).
2. vacuum systems (to make sure the laser light is kept pure).
3. optics components (to preserve laser light and laser power).
4. computing infrastructure (to handle the mindboggling amount of data that LIGO collects).

These systems are like LIGO's internal organs. If any one fails, the whole instrument suffers.

Emerging Market Economy

An emerging market economy describes a nation's economy that is progressing toward becoming more advanced, usually by means of rapid growth and industrialization. These countries experience an expanding role both in the world economy and on the political frontier.

What is the 'Real Effective Exchange Rate - REER'?

- The real effective exchange rate (REER) is the weighted average of a country's currency in relation to an index or basket of other major currencies, adjusted for the effects of inflation.
- The weights are determined by comparing the relative trade balance of a country's currency against each country within the index.
- This exchange rate is used to determine an individual country's currency value relative to the other major currencies in the index, such as the U.S. dollar, Japanese yen and the euro.

What is a 'Current Account Deficit'?

- The current account deficit is a measurement of a country’s trade where the value of the goods and services it imports exceeds the value of the goods and services it exports.
- The current account includes net income, such as interest and dividends, and transfers, such as foreign aid, although these components make up only a small percentage of the total current account.
- The current account represents a country’s foreign transactions and, like the capital account, is a component of a country’s balance of payments.

What is a 'Tight Monetary Policy'

- Tight, or contractionary, monetary policy is a course of action undertaken by a central bank such as the Federal Reserve to slow down overheated economic growth - to constrict spending in an economy that is seen to be accelerating too quickly or to curb inflation when it is rising too fast.
- The central bank tightens policy or makes money tight by raising short-term interest rates through policy changes to the discount rate, also known as the federal funds rate.
- Boosting interest rates increases the cost of borrowing and effectively reduces its attractiveness.
- Tight monetary policy can also be implemented via selling assets on the central bank's balance sheet to the market through open market operations.
- Tight monetary policy is different from - but can be coordinated with - a tight fiscal policy, which is enacted by legislative bodies and includes raising taxes or decreasing government spending.

Currency Run

A currency run causes a deterioration in bank solvency and consequently in the value of bank debts. The main mechanism by which a currency run affects bank solvency is the increase in the domestic interest rates.

Capital Flight

Capital flight, in economics, occurs when assets or money rapidly flow out of a country, due to an event of economic consequence.

Low Inflation

Low Inflation is a phenomenon when the prices of goods and services do not increase rapidly. This situation is not much harmful for any economy because it could be controlled by the adoption of certain measures unlike high inflation which is almost uncontrollable.