Prelim Bits 02-05-2019

Interest Rate Parameters

- Financial institutions decide on the interest rates for a loan through different parameters, and the bank can't lend below that interest rate.
- The most widely used methods to calculate interest rates by the bank are as follows
- **Base Interest Rate -** It is a minimum interest rate set and published by commercial banks for accumulating interest on different credit types, this rate is based on non-treasury securities.
- **MCLR -** The Marginal Cost of Funds based Lending Rate (MCLR) system was introduced by the Reserve Bank to provide loans on minimal rates as well as market rate fluctuation benefit to customers.
- This system has modified the base rate system of providing home loans.
- In this system, banks have to set various benchmark rates for specific time periods starting from overnight to one month, quarterly, semi-annually and annually.
- **External Bench Mark Rate -** The RBI proposed to the use of external benchmark rates such as Treasury bill rate, certificate of deposit rate and repo rate with an objective to make transmission faster.
- Recently State Bank of India (SBI) linked its interest rates on savings bank deposits and short term loans to the repo rate of the Reserve Bank of India (RBI).
- The new system of the external benchmark is expected to bring in more transparency in fixing interest rates, and faster transmission of rates.
- Banks were lagging in these two crucial factors while determining their deposit and lending rates.

Repo Rate and Reverse Repo rates

- **Repo rate** is the rate at which RBI lends to its clients generally against government securities.
- Reduction in repo rate helps the commercial banks to get money at a cheaper rate and increase in repo rate discourages the commercial banks to get money as the rate increases and becomes expensive.

- The increase in the repo rate will increase the cost of borrowing and lending of the banks which will discourage the public to borrow money and will encourage them to deposit.
- **Reverse repo rate** is the rate at which RBI borrows money from the commercial banks.
- As the rates are high the availability of credit and demand decreases resulting to a decrease in inflation.
- This increase in repo rate and reverse repo rate is a symbol of tightening of the policy.

NATRIP Project

- National Automotive Testing and R&D Infrastructure Project (NATRiP), is the most significant initiatives in the automotive sector of India.
- Government of India, a number of State Governments and Indian Automotive Industry collaborate to create a state of the art Testing, Validation and R&D infrastructure in the country through the project.

ICAT

- The International Centre for Automotive Technology (ICAT), Haryana, is a leading world-class automotive testing, certification and R&D service provider under the aegis of NATRiP.
- ICAT is an important element of the automotive sector, with its world-class infrastructure and domain expertise providing services in development, testing, validation and homologation.
- With Centers of Excellence (CoE) in automobile development, ICAT intends to eventually transform it into an automotive product development centre.

Chandrayaan – II

- Chandrayaan-2 is India’s second lunar mission.
- It has three modules namely Orbiter, Lander (Vikram) & Rover (Pragyan).
- The Orbiter and Lander modules will be interfaced mechanically and stacked together as an integrated module and accommodated inside the GSLV MK-III launch vehicle and the Rover is housed inside the Lander.
- After launching into earthbound orbit by GSLV MK-III, the integrated module will reach Moon orbit using Orbiter propulsion module.
- Subsequently, Lander will separate from the Orbiter and soft land at the predetermined site close to lunar South Pole.

- Further, the Rover will roll out for carrying out scientific experiments on the lunar surface.

Types of Orbit

- **Geostationary Orbit (GEO) -** A geostationary orbit, often referred to as a GEO orbit, circles the Earth above the equator from west to east at a height of 36 000 km.
- It follows the Earth's rotation, thus satellites in a GEO orbit appear to be 'stationary' over a fixed position.
- As satellites in geostationary orbit continuously cover a large portion of the Earth, this makes it an ideal orbit for telecommunications or for monitoring continent-wide weather patterns and environmental conditions.
- **Geostationary Transfer Orbit (GTO) -** This is an elliptical Earth orbit used to transfer a spacecraft from a low altitude orbit or flight trajectory to geostationary orbit.
- **Low Earth Orbit (LEO) -** A low Earth orbit is normally at an altitude of less than 1000 km and could be as low as 160 km above the Earth.
- In general, these orbits are used for remote sensing, military purposes and for human spaceflight as they offer close proximity to the Earth's surface for imaging and the short orbital periods allow for rapid revisits.
- The International Space Station (ISS) is in low Earth orbit.
- **Polar Orbits -** As the name suggests, polar orbits pass over the Earth's Polar Regions from north to south.
- The orbital track of the satellite does not have to cross the poles exactly for an orbit to be called polar, an orbit which passes within 20 to 30 degrees of the poles is still classed as a polar orbit.
- Satellites in polar orbit look down on the Earth's entire surface and can pass over the North and South Poles several times a day.
- Polar orbits are used for reconnaissance and Earth observation.
- **Sun Synchronous Orbits -** These are polar orbits which are synchronous with the Sun.
- Generally, these orbits are used for Earth observation, solar study, weather forecasting and reconnaissance, as ground observation is improved if the surface is always illuminated by the Sun at the same angle

when viewed from the satellite.

- **Earth Parking Orbit (EPO) -** A Parking orbit tends to be a temporary orbit that something enters before being boosted into its final orbit.
- There is no single orbit that's called a parking orbit, any orbit can be used as EPO.

Source: PIB, the Hindu

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