

Abhimanu

Weekly current affairs Series

Week: I, October 2017

Abhimanu's IAS Study Group

Chandigarh

Fourth Bi monthly monetary policy

- Reserve Bank today kept interest rate unchanged as was widely expected in view of upward trend in inflation even as it cut the growth forecast to 6.7 per cent for the current fiscal.

Highlights of monetary policy:

- Repo rate kept unchanged at 6 percent.
- Reverse repo rate unchanged at 5.75 percent.
- Cuts economic growth forecast to 6.7 percent from 7.3 percent for FY'18
- Projects inflation at 4.2-4.6 percent in the second half.
- GST implementation rendered prospects for the manufacturing sector uncertain in the short term.
- Focus on keeping headline inflation close to 4 percent on a durable basis
- RBI continues to work towards the resolution of stressed corporate exposures in bank balance sheets.
- Recent structural reforms improving business environment, transparency and increasing formalisation of the economy.
- Suggests concerted drive to restart stalled investment projects, enhance ease of doing business, including simplification of the GST to boost growth.
- Suggests rationalisation of "excessively high" stamp duties charged by states, faster rollout of affordable housing programme.

Analysis:

- India's economic growth slowed for the fourth consecutive quarter in the three months ended March, mirroring the impact of demonetisation on key sectors including construction and financial services.
- Gross domestic product (GDP) growth slowed to 6.1% in the fiscal fourth quarter from 7%.
- Real gross value added (GVA), another measure of economic activity that is arrived at by excluding net indirect taxes from GDP, slowed to a growth pace of 5.6% in the March quarter, also the fourth consecutive quarterly decline.
- The Central Statistics Office maintained its earlier full-year growth estimate for 2016-17 at 7.1% on top of revised 8% growth in the previous financial year.
- The growth numbers reflected the lingering effects in the March quarter of the government's demonetisation of high-value banknotes with effect from 9 November, which triggered a cash crunch and disrupted business, especially in the unorganized sector. The labour-intensive construction sector contracted as a result of the cash shortage and regulatory changes, and financial services grew at an anaemic single-digit pace.
- The distinct downtrend in GDP growth over the four quarters of FY17 suggests that the slowdown in growth that had already set in had been intensified by the note ban.
- Fiscal fourth-quarter growth in the \$2.3 trillion Indian economy, the third largest in Asia, trailed the 6.9% pace at which China grew in January-March, putting it at the risk of losing its status as the world's fastest expanding major economy.
- India's per capita income in real terms in 2016-17 also slowed to a growth pace of 5.7% to Rs82,296 (\$1,276) against 6.8% growth last year.

- The construction sector shrank 3.7% in the March quarter, compared with a 3.4% growth in the preceding quarter. The announcement that a real estate regulator will be appointed to ensure higher accountability in the sector may have also contributed to the slowdown.
- Mining picked up to grow 6.4% and so did public expenditure, rising 17%. Agriculture output growth slowed but stayed robust at 5.2% and financial services grew by just 2.2%. The manufacturing sector (5.3%) as well as trade, hotels and transportation (6.5%) also slowed from their levels in the preceding quarter.
- Excluding agriculture and public expenditure, core GVA grew 3.8% in the fourth quarter, revealing the deeper impact of demonetisation and suggesting that economic activity would have been much slower without a substantial push in public expenditure.
- Credit rating agency Moody's Investors Service projected India's economy to accelerate to grow at 7.5% in 2017-18 and 7.7% in 2018-19 as the government has been able to limit the negative impact of last year's demonetisation on the economy.
- The World Bank also expects the Indian economy to grow at 7.2% in FY18 and gradually gather pace to touch 7.7% by FY20, a year later than Moody's projection.

Mudra Yojana promotions

- The government has launched promotion campaigns for its flagship scheme Mudra Yojana. 50 promotion campaigns will be organised in different parts of the country where the union ministers will be participating among others.
- The promotion campaigns will be launched by the department of financial services and state level banking committee (SLBC) of different states will actively participate and coordinate all these campaigns.

About the Pradhan Mantri MUDRA Yojana (PMMY) scheme:

- This scheme to provide loans to small businesses and micro institutions.
- This scheme would intervene in providing finance to these micro institutions in three stages:
- Shishu: Under the Shishu stage, MUDRA provides a loan up to RS.50, 000 to small businesses.
- Kishor: Next is the Kishor stage. Under this stage, MUDRA provides loans of an amount ranging from RS.50, 000 up to Rs.5 lakh.
- Tarun: Last stage of intervention is the Tarun stage. Under this stage, loans of amounts ranging from Rs.5 lakh to Rs.10 lakh are provided.

Objectives of the MUDRA Loan Yojana

- To lay down policy guidelines to finance micro/small enterprises
- To get all Micro Finance Institutions and entities registered and regulate the same.
- To help small businesses grow and develop their enterprise further.
- To assist lower income groups in setting up and developing their business.
- To help set up responsible financial practices in order to prevent over borrowing for lower income entrepreneurs.
- To help create easy access to finance for the unbanked and also help lower the cost of finance.
- To give SC/ST preference in lending.
- To regulate all Micro Finance Institutions dealing with manufacturing, service and trading.

President appoints commission to examine OBC quota benefits

- President has appointed a five-member Commission headed by Delhi High Court's former Chief Justice G Rohini to examine sub categorization of Other Backward Classes (OBCs) under Article 340 of the Constitution.
- This decision has been taken to ensure that the more backward among the OBC communities avail the benefits of reservation.

The composition of the Commission is as follows:

- Chairperson -Justice (Retd.) G. Rohini,
- Member -Dr. J.K. Bajaj
- Member(Ex-officio)-Director, Anthropological Survey of India,
- Member (Ex-officio)-Registrar General and Census Commissioner
- Secretary of the Commission-Joint Secretary, Department of SJ&E, Ministry of Social Justice and Empowerment.

Term of Reference:

- To examine the extent of inequitable distribution of benefits of reservation among the castes or communities included in the broad category of Other Backward Classes with reference to such classes included in the Central List;..
- To work out the mechanism, criteria, norms and parameters in a scientific approach for sub-categorisation within such Other Backward Classes; and...
- To take up the exercise of identifying the respective castes or communities or sub-castes or synonyms in the Central List of Other Backward Classes and classifying them into their respective sub-categories..

The Commission is required to present their Report to the President within a period of twelve weeks of assumption of charge by the Chairperson of the Commission. On receipt of the Report of the Commission, the Central Government will consider ways and means for equitable distribution of the benefits of the reservation in Central Government jobs and admission in Central Government Institutions amongst all strata of the Other Backward Classes.

Committee on Management of water resources in North Eastern Region

- The Government has constituted a high-level committee for proper management of the water resources in the North Eastern Region (NER) under the Chairmanship of Vice-Chairman, Niti Aayog.
- The Committee would facilitate optimising benefits of appropriate water management in the form of hydro-electric power, agriculture, bio-diversity conservation, reduced flood damage erosion, inland water transport, forestry, fishery and eco-tourism.
- Ministry of Development of North Eastern Region (DoNER) will serve as the coordinating point. The Committee will submit its report, including Plan of Action, by June, 2018.
- The Brahmaputra and Barak river systems which account for one-third of India's run off, are highly prone to floods.
- Brahmaputra is one of the largest river systems in the world and causes considerable distress and costs on the region through frequent flooding and erosion.

The terms of reference of the Committee include:

- Appraisal of existing mechanism/institutional arrangements for management of water resources of the North Eastern Region.

- Identification of gaps in the existing mechanism/institutional arrangements for optimal management of water resources of the NER.
- Suggest policy interventions required for optimally harnessing the water resources for accelerating development in the NER
- Spelling out of actionable measures required for optimizing the management of water resources in the North-East.
- Chalking out a Plan of Action for dovetailing of the schemes/programmes of concerned Union Ministries, their attached offices and autonomous bodies as well as the schemes of the respective North-Eastern State Governments.

India in UN peacekeeping missions

- India has sought enhanced role for troops contributing countries in the decision-making process of UN peacekeeping missions.
- India has asked the UN Security Council to revisit the way mandates are designed. It is because, according to India, the current system of excluding the troop and police-contributing countries (T/PCCs) from the process of framing the mandates is not sustainable.
- United Nations Peacekeeping was created in 1948. Its first mission involved the establishment of the UN Truce Supervision Organization (UNTSO), which served to observe and maintain ceasefire during the 1948 Arab-Israeli War.
- UN Peacekeeping maintains three basic principles: Consent of the parties, impartiality and non-use of Force except in self-defence and defence of the mandate.
- The UN Peacekeepers are led by the Department of Peacekeeping Operations (DKPO).

Analysis:

- India is one of the largest contributors of troops and police to UN peacekeeping missions. India is the largest cumulative troop contributor, having provided almost 200,000 troops in nearly 50 of the 71 UN peacekeeping missions over the past six decades, including 13 of the current 16 missions.
- India has been actively contributing to the UN peacekeeping missions since independence in different forms beginning with a medical mission in Korea. Ever since military personnel began to be deployed for peacekeeping, India has been a key contributor beginning with 1956 Arab – Israeli war. Later, India's contribution towards ensuring peace in Congo proved vital to the country's stability after decolonization. At present, there are 8680 Indian personnel in 9 of the 14 peace-keeping operations. India's contribution is not only reflective of the objectives set out in the UN charter, but also has generated goodwill in different parts of the world especially in the developing world. Furthermore, it has served India's national security interests in her near and extended neighbourhood.
- The nature of conflicts and the reactions to these conflicts have also dramatically changed over the past decades.
- There have been 50 cases of alleged sexual exploitation and abuse against UN peacekeepers since January 1 last year but there was not a single allegation against Indian soldiers.
- India had set an example in February last year, when it deployed the first ever female foreign police unit for peacekeeping mission in Liberia.
- UN peacekeeping budget is less than a half of one per cent of global military spending and is shared between all 193 UN members' states.

Cabinet approves the Extradition Treaty between India and Lithuania

- The Union Cabinet has given its approval for the signing and ratification of the Extradition Treaty between India and Lithuania.
- The Treaty would provide a legal framework for seeking extradition of terrorists, economic offenders and other criminals from and to Lithuania.

- The Treaty would help in extradition of fugitive criminals including terrorists for criminal prosecutions from Lithuania who may have committed crimes against India.
- It will bring the criminals to justice, with a view to ensure peace and tranquility to public at large.
- Extradition is the surrender of a criminal to one country by another. It also helps in maintaining the territoriality of the penal code which says that a country should not apply its criminal law to a person who committed an offence outside its territories except when the crime is related to the country's national interest. The process is regulated by treaties between the two countries.

Analysis:

- Lithuania established diplomatic relations with India in 1992 after regaining independence from the former Soviet Union in 1991.
- The Lithuanian political leadership, while attempting to promote relations with India, endorsed that Indians and Lithuanians have similarities in culture, language, customs and ancestry.
- According to Lithuanian statistics, bilateral trade was USD 117.9 million during 2009 and USD 184 mn in 2010. In 2011, bilateral trade reached USD 203 mn. In the first quarter of 2013, bilateral trade reached Euro 23 mn. An Indian Baltic Chamber of Commerce (IBCC) was formed in Vilnius in 2009 while an India-Lithuania Forum was inaugurated in September 2010.
- Major items of import from India include pharmaceuticals, cosmetics, textiles and consumer goods. Major items of export to India include machinery and mechanical appliances, high tech optical instruments, base metals and articles of base metal, chemicals, sulphur, lime and cement.
- Over the last few years, some Indian IT experts have been coming to Lithuania to work on IT projects for varying periods. Several Indians work in the Klaipeda-based USD 200 million PET plant of the OP Lohia Group.

Uday Kotak Committee on Corporate Governance

- A corporate governance committee headed by Uday Kotak has submitted its report on corporate governance.

Main highlights of the committee:

Minimum number of board of directors:

- The Committee has proposed that now board of directors shall comprise not less than six directors.
- Also board of directors shall have an optimum combination of executive and non-executive directors with at least one woman as an independent director and not less than 50% of the board of directors shall comprise of non-executive directors.

Minimum number of board meetings

- These board shall meet at least 4-5 times a year, with a maximum time gap of one hundred and twenty days between any two meetings and at least once a year.
- Under this meeting, the board shall specifically discuss strategy, budgets, board evaluation, risk management, ESG (environment, sustainability and governance) and succession planning.
- Listed entity shall, at least once every year, undertake a formal interaction between the non-executive directors and the senior management
- With effect from April 1, 2018, if a director does not attend at least half of the total number of board meetings held over the Relevant Period, his/her continuance on the board shall be subject to ratification by the shareholders at the next annual general meeting.
- While from April 01, 2020, listed entities which have public shareholding 40% or more shall ensure that the Chairperson of the board shall be a non-executive director, on and from that financial year.
- No listed entity shall appoint a person or continue the directorship of any person as a non-executive director who has attained the age of 75 years unless a special resolution is passed to that effect.

Minimum compensation and remuneration

- Top 500 listed entities by market capitalisation shall pay compensation to each independent director as Rs 5 lakh per annum, whether through sitting fees or profit linked commissions.

- Provided that, this provision will not apply in case of inadequacy of profits in accordance with Section 197 of Companies Act, 2013 - minimum sitting fees for every board meeting of Rs 50,000 for top 100 entities by market capitalisation and Rs 25,000 for next 400 entities.
- Sebi stated that annual remuneration payable to such executive director if exceeds Rs 5 crore or 2.5% of the net profits of the listed entity, whichever is higher, the approval of the shareholders under this provision shall be valid only till expiry of term of such director.
- Approval of shareholders shall be obtained every year in which the annual remuneration payable to a single non-executive director exceeds 50% of the total annual remuneration payable to all non-executive directors, giving details of the remuneration thereof.

INTERNATIONAL AFFAIRS

Constitutional Crisis of Spain

- Spain's is facing its biggest constitutional crisis in decades after violence-marred independence referendum in Catalonia opened the door for its wealthiest region to move for secession as early as this week.
- Catalan officials said 90 percent of voters had chosen to leave Spain, had set the stage for a decisive clash between Madrid and the region.
- However, the referendum has no legal status; it has been blocked by the Madrid government and Constitutional Court for being at odds with the 1978 constitution, which states that Spain cannot be broken up, and there is little sign of support for Catalan independence in any other part of Spain.

Why Catalonia want independence?

- Catalonia, with its capital in Barcelona, is an autonomous Spanish region. It has a population of 7.5 million people, comprising roughly 16 per cent of Spain's population. It is among Spain's most prosperous regions, contributing a fifth of the country's 1.1 trillion-euro (\$1.32 trillion) economy
- The regional government runs its own police and exercises significant powers in health and education. However, key areas such as taxes, foreign affairs, defense, ports, airports and trains are in the hands of the central government
- Pro-independence Catalans are unhappy with the limited autonomy the region enjoys. A common argument is that Catalonia contributes far more than it receives from the Spanish government, which is run from Madrid
- According to experts, lack of economic autonomy, especially, has made people angry. Most of Spain's regions pay taxes to the central government and then receive a portion in return to spend on health, education and public infrastructure, with the sole exceptions of the northern Basque Country and its twin region Navarre. These regions collect their own taxes and decide for themselves how to spend the money. Spain's refusal to extend these tax-and-spend privileges to Catalonia has fuelled outrage
- Many Catalans have also long stressed the region's cultural differences from the rest of the country, including its traditions and language, which were suppressed during the 1939-1975 dictatorship of General Francisco Franco
- The current movement for independence gained traction after Spain's Constitutional Court in 2010 struck down parts of a charter that would have recognized Catalonia as a nation within Spain and granted it greater autonomy. Since the court's ruling, hundreds of thousands of Catalan residents have taken to the streets every year on September 11, a Catalan holiday, to demand independence
- Support for secession received a fillip after Spain's harsh austerity measures during the 2008-2013 financial crisis. Many Catalans felt they could do better on their own

- Attempts to resolve the situation through talks have failed due to various reasons. The Spanish PM said he cannot discuss a referendum unless the constitution is changed, and invited Catalonia to work on changing it. The Catalan government, however, says its right to self-determination must be respected first before talks can proceed
- This is not the region's first attempt to hold a vote on the question of independence. While a non-binding referendum in 2014 was blocked by the court, the Catalan government still went ahead and staged an unofficial poll

India, Ethiopia sign agreements on trade, communication

- Indian President is on his four days visit to Ethiopia and Djibouti. He started his visit from Ethiopia.
- India and Ethiopia signed agreements on trade, communication and media to boost bilateral ties.
- India will provide a credit line to the tune of USD 195 million to Ethiopia for an electric transmission line. He also announced a grant of USD 2 million for medicines.
- This is the first time in 40 years that an Indian presidential delegation has visited Ethiopia.

Analysis(Importance of Africa):

- India today has growing stakes in Africa. With some of the fastest growing nations in the world, Africa of today is not the "dark continent" of yore.
- The needs of regional states are divergent and their strengths are varied. India's focus over the last few decades has largely been on capacity building on the continent, providing more than \$1 billion in technical assistance and training to personnel under the Indian Technical and Economic Cooperation (ITEC) programme. India has committed \$7.5 billion (Rs 48,858 crore) to African infrastructure, covering 137 projects in more than 40 countries.
- India has also offered duty-free market access to Africa's least developed countries. But India's trade with Africa remains far below potential.
- India wants a "developmental partnership" with Africa to be the cornerstone of its economic ties with the region. This also allows India to differentiate itself from the principles on which countries belonging to the Organisation for Economic Cooperation and Development (OECD), the traditional donors of foreign aid, have based their relations with the recipient nations.
- Beijing's policy of using financial and military aid to secure oil fields in Africa has resulted in New Delhi losing out.
- The fierce competition between China and India for resources and energy to fuel their economies has been likened to the so-called scramble for Africa among European countries in the 19th century.
- This is a competition only in name as India lags far behind China in Africa. Where China's response toward the region has been well-coordinated across various government agencies, India has failed to project a united front.
- The Indian government will have to support its companies more proactively if it hopes to close the gap with China in terms of its economic profile on the continent.
- Yet India has its own strengths in its dealings with Africa. Its democratic traditions make it a much more comfortable partner for the West compared to China in cooperating on Africa-related issues.
- India is viewed as a more productive partner by many in Africa because Indian companies are much better integrated into the African society and encourage technology transfers to its African partners. New Delhi will have to leverage its own strengths in making a lasting compact with Africa and regain its lost presence on the continent.
- President Kovind's visit underlines the continuing salience of Africa in India's foreign policy matrix and the resolve of New Delhi to build long-term partnerships with the African continent.

2017 Nobel Peace Prize

- International Campaign to Abolish Nuclear Weapons, a nuclear disarmament group, has won the 2017 Nobel Peace Prize.

What is ICAN?

- ICAN describes itself as a coalition of non-governmental organisations in 100 countries promoting adherence to and implementation of the United Nations nuclear weapon ban treaty.
- It has advocated at the United Nations and in parliaments around the world, bringing the stories of those impacted by nuclear testing and survivors of the Hiroshima and Nagasaki bombings to a world stage.
- ICAN was launched in Vienna, Austria in April 2007 during the Non-Proliferation Treaty preparatory committee meeting.
- Since its inception, ICAN has partnered with 468 Non-governmental organizations (NGOs) in 101 countries. It has three partner-organizations each in India – Indian Doctors for Peace and Development; Indian Institute for Peace, Disarmament and Environmental Protection; and Popular Education and Action Centre – and in Pakistan – Community Motivation & Development Organization; Pakistan Doctors for Peace and Development; and Alliance for Peace and Disability Rights (APDR).

Achievements:

- The organisation is receiving the award for its work to draw attention to the catastrophic humanitarian consequences of any use of nuclear weapons, and for its ground-breaking efforts to achieve a treaty-based prohibition on such weapons.
- We live in a world where the risk of nuclear weapons being used is greater than it has been for a long time.
- Some states are modernising their nuclear arsenals and there is a real danger that more countries will try to procure nuclear weapons, as exemplified by North Korea. Nuclear weapons pose a constant threat to humanity and to life on Earth.
- Efforts of this organization culminated in the passing of the Treaty on the Prohibition of Nuclear Weapons (TPNW) in July this year.
- The treaty, which “prohibits the development, testing, production, manufacture, acquisition, possession, stockpiling, transfer, use, and threatened use of nuclear weapons”, will come into effect once it is ratified by 50 member states of the United Nations.

SCIENCE AND TECHNOLOGY

Nobel Prize in medicine

- Three US scientists have won the Nobel Prize in Physiology or Medicine “for their discoveries of molecular mechanisms controlling the circadian rhythm,” otherwise known as our biological clock.
- Jeffrey C. Hall, Michael Rosbash and Michael W. Young were awarded the prize for their research on how plants, humans and animals adapt their biological rhythm to synchronize with our planet’s day and night cycle, as the earth rotates, in order to control their daily life.

About Discovery:

- The laureates began work on their discovery in 1984. Hall and Rosbash collaborated at Brandeis while Young did his part at Rockefeller. They were all working with fruit flies. Hall and Rosbash discovered a certain

protein known as PER. This would build up in the fly's system overnight and disappear over the course of the day. The protein was found to change significantly over a 24-hour period. So it's essentially the main driver for the insect's internal clock. Hall meanwhile isolated what's known as the period gene which encodes for the PER protein.

- Hall found that blocking the period gene disrupts the fly's internal clock. From there, it was discovered that the gene helps control the PER protein by inhibiting its activity. Seymour Benzer and Ronald Konopka in the 1970s were the first to discover a period gene. But these new laureates found out how such a gene works.
- In the fruit flies, the period gene prevents PER from synthesizing, regulating it and keeping the fly's biological clock synchronized. In 1994, Young went a step further and proved how the PER protein built up overnight again within a cell's cytoplasm. He found another gene, called timeless, which encodes the TIM protein.
- TIM becomes active overnight within the cytoplasm, allowing PER to build up there. Come morning, these two proteins bind together and enter the cell's nucleus, where PER is incrementally worn away by the period gene, through an impressive feedback loop. By identifying these genes and the proteins that they make, researchers were able to reveal a crucial mechanism at work within all life.

Researching fruit flies

- The research rewarded with this year's prize built on the work of scientist Seymour Benzer and his student Ronald Konopka in the 1970s. The pair highlighted how mutations in an unknown gene disrupted the circadian clock of flies, naming the gene "period."
- Using fruit flies to investigate this further, this year's Nobel Laureates set out to reveal how this gene actually works -- and in turn controls the body clock. They managed to isolate the period gene and soon discovered that levels of the protein this gene encodes, PER, increase during the night and degrade during the day, highlighting that the protein fluctuates over a 24 hour cycle.
- They then went on to discover the role of another gene, called "timeless," which encodes a protein called TIM, that works in combination with the PER protein to regulate the activity of the period gene and in turn the levels of the PER protein -- enabling this 24-hour oscillation.
- Using fruit flies as a model organism, this year's Nobel Laureates isolated a gene that controls the daily biological rhythm.

Analysis:

- This is a very important piece of work and has huge implications. When the body clock is disrupted, you're more likely to suffer from diseases. This research means we can target particular aspects or components of the clock to help treat certain diseases.
- This research would allow drugs to target a specific area where the clock is disrupted.
- It shows that our brain and body require a good 24 hour rhythm to have optimum health.
- These investigators were the first to discover a gene that controlled circadian behaviour. It had been recognized for some time that animals and plants not only respond to changes in light as we move from day to night with the Earth's rotation, but that they anticipate such changes.
- This allows organisms to prepare for and gain maximum benefit from the change in environment.

Government launches wildlife action plan

- After integrating climate change into wildlife planning, putting greater thrust on wildlife health management and poaching, increasing public outreach and tweaking previous strategies, the Union Environment Ministry has released the third National Wildlife Action Plan (NWAP) for 2017-31.
- The plan was released at the recently held meeting of Global Wildlife Program (GWP) that involves 19 Asian and African countries, United Nations, World Bank and other leading global organisations to deal with the wildlife crime.

Highlights of the plan:

- The NWAP 2017-31, under which there are 250 projects, is India's road map to conserve wildlife for the next 15 years. The plan is woven around the agenda of the United Nations' 15th Sustainable Developmental Goal — "Life on Land".
- The key strategic changes in the new plan is adopting a "landscape approach" in conservation of all the wildlife — uncultivated flora (plants) and undomesticated fauna (animals) — rather than the areas where they occur.
- This means that while till now programmes and plans related to wildlife were focused on and around national parks and sanctuaries, now the strategies would be based on the landscape of the region that may not be limited to a reserve forest system alone.
- The plan has been divided into five components, which are further divided into 17 themes carrying 103 conservation actions. Each theme has a set of conservation actions and projects — 250, in all.
- Man-animal conflict mitigation, adapting to the climate change, managing eco-tourism, ensuring public participation in the conservation, developing human resources, strengthening research and monitoring through modern technology like radio collars and drones and ensuring funds for the wildlife sector have been given special thrust in the planning.
- The plan adopts a "landscape approach" in conservation of all wildlife – uncultivated flora and fauna – that have an ecological value to the ecosystem and to mankind irrespective of where they occur. It gives special emphasis to recovery of threatened species of wildlife while conserving their habitats.
- The government has also underlined an increased role of private sector in wildlife conservation. The plan lays down that the Centre would ensure that adequate and sustained funding including Corporate Social Responsibility funds are made available for the National Wildlife Action Plan implementation.

SECURE Himalaya

- The Union Government had launched SECURE Himalaya, a six-year project to ensure conservation of locally and globally significant biodiversity, land and forest resources in high Himalayan ecosystem spread over four states viz. Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Sikkim.

About Project:

- The "Secure Himalaya" plan intended to conserve the snow leopards by protecting their habitats and improve the ecology of Himalayan ranges and lives of the mountain communities
- With a total budget sanction of over \$72.3 million, the Secure Himalaya project, launched by the Union Environment Ministry in collaboration with United Nations Development Program (UNDP).
- The project includes the Kangchenjunga and Teesta valley areas in Sikkim, the Gangotri-Govind and Darma Bayas valley in the Pithoragarh area of Uttarakhand, Pangi and Kinnaur in Himachal Pradesh and Changhang in Jammu and Kashmir, which are home to around 67.57 million people.
- The project also outlined that the remoteness and relative seclusion has made the mountain communities that includes many tribal communities, among the last bastions of globally significant indigenous knowledge and cultural heterogeneity.

About Snow Leopard:

- Snow leopards are found at altitudes between 9,800 and 17,000 feet in the high, rugged mountains of Central Asia. Their range spans from Afghanistan to Kazakstan and Russia in the north to India and China in the east.
- China contains about 60% of snow leopard habitat. They have already disappeared from certain parts of Mongolia, which is part of their historic range.
- Snow leopards prefer to inhabit steep cliff areas, rocky outcrops and ravines. Such habitats provide them with the camouflage they need to ambush unsuspecting prey. They stalk their prey and usually spring from a distance of 20 - 50 feet. Their long and powerful hind limbs help snow leopards leap up to 30 feet, which is six times their body length.
- Mostly active at dawn and dusk, snow leopards are rarely seen in the wild. Unlike other big cats, snow leopards are unable to roar. Solitary in nature, they pair only during the breeding season.
- Mostly feed on wild animals, but will also prey on livestock.

- Their spotted coats change with the seasons – from a thick, white fur to keep them warm and camouflaged in winter, to a fine yellow-grey coat in summer.

2017 Nobel Prize in Chemistry

- The 2017 Nobel Prize in Chemistry was awarded to Jacques Dubochet, Joachim Frank and Richard Henderson “for developing cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution”.

About Discovery:

- Previously, researchers had to make drastic trade-offs when they wanted to look inside the smallest units of life. Visualizations of cell function required cumbersome dyes, stains, or labels that would alter their behavior and only provide a coarse picture in only two dimensions.
- This left conspicuous blind spots in scientists’ understanding of molecular biology. Most had a sense of what components were important, but were hazy about how they looked and what functions they performed. This was especially true for the structures associated with DNA, the blueprint for all living things.
- But in the years between 1975 and 1986, Frank figured out how to stitch two-dimensional micrographs together to yield a sharp 3D picture. In 1990, Henderson was able to use this technique to visualize a protein in 3D down to its atoms with an electron microscope.
- Dubochet provided the final piece of the puzzle in the early 1980s. He found that by rapidly cooling a specimen before putting it in an electron microscope, water would form a solid shell without freezing, keeping biological structures in their original shape while they are scanned.
- What all these steps eventually yielded was the ability to take biologically-accurate snapshot of the tiniest machinery of life mid-movement. That in turn provides scientists with a more detailed look at diseases and the chance to develop better drugs.
- In the Zika virus, for example, scientists identified unique parts of the pathogen’s structure using cryo-electron microscopy, identifying a potential target for a vaccine.
- A model of the structure of the Zika virus produced with cryo-electron microscopy Royal Swedish Academy of Sciences
- Cryo-electron microscopy has rapidly improved since its inception as engineers have developed better hardware, with visualizations going from shapeless blobs to detailed structures.
- And the technique is still getting better. Scientists say it’s still short of the upper physical limit of its resolution and they anticipate better visualizations of biological structures in the coming years. The three laureates will equally split the \$1.1 million in prize money.
- This is the third prize announced from the Nobel committee this week, with the Nobel in medicine or physiology going to scientists working on circadian rhythms and the Nobel in physics awarded to research on gravitational waves.

Embryo Transfer Technology (ETT)

- In a bid to conserve indigenous breed of cattle, the government has undertaken a Mass Embryo Transfer programme in Indigenous Breeds under the scheme, National Mission on Bovine Productivity.
- Embryo transfer technology (ETT) has revolutionized the breeding strategies in bovines as a tool to optimise the genetic improvement in cattle.
- The Department of Animal Husbandry, Dairying and Fisheries, in co-operation with 12 states has planned to carry out 440 embryo transfers during October 2 to 10, 2017 throughout the country.
- The programme is implemented with the objective of conservation and development of indigenous breeds under the Rashtriya Gokul Mission.

About this programme:

- The programme has been initiated in 12 ETT centres across the country.
- Under this programme, embryos of higher genetic merit indigenous bovines are being transferred into surrogate cows.
- Embryos of indigenous breeds such as Sahiwal, Gir, Red Sindhi, Ongole, Deoni and Vechur have been proposed to be transferred under this programme.
- On first day of the ET programme held on 2nd October, 35 embryos were transferred in to recipients.
- Remaining will be transferred on different days till October 10, 2017.
- The technology now being taken up to the doorstep of the farmers will result in rapid propagation of high genetic merit indigenous cattle.

Analysis:

- Embryo Transfer Technology (ETT) is a technique used to increase the reproduction rate of cows and buffaloes. Theoretically, a cow/ a buffalo can produce one calf a year that makes its reproductive rate lower.
- Every 21 days it comes into heat and releases one egg (ovum). If the animal is mated to a bull at the right time during the heat or inseminated artificially, the egg is fertilized which results into a pregnancy. The animal would deliver a calf after about 280 days of gestation in cows and 310 days in buffaloes.
- Due to low reproduction rate, the genetic contribution of cows to next generation was minimal.
- However, with ET, now a cow can produce 5-10 calves in a year. Embryo transfer simply means collection of an embryo from a donor female and its transfer to the uterus of a recipient female of the same species.
- ET is not a treatment for infertility. For ET to be successful, both donor and recipient animals need to be reproductively healthy, non-pregnant and in positive energy balance as far as feeding is concerned.
- Embryo collection and transfer are highly skilled jobs to be performed only by trained veterinarians. Embryo transfer also requires a sophisticated laboratory, equipment, consumables and biologicals, majority of which are not available in the country and need to be imported. Therefore, it is quite expensive and cost of embryo depends on embryo recovery rates besides the material cost. Embryos should only be collected from elite donor females whose production is well above the production of the population and are free from any diseases. ETT is extensively used for production breeding bulls in many parts of the developed world.
- Field embryo transfer work can be conducted using fresh or frozen embryos. In case of fresh transfers, flushing (embryo recovery) of donors have to be planned and carried out in the field itself or close to the place of actual embryo transfer. This gives better pregnancy rate. Frozen (either in Glycerol or in Ethylene Glycol) embryo transfer can also be taken up in the field. This gives slightly lower pregnancy rate than achieved in fresh embryo transfer. It is much easier to transfer embryos frozen in Ethylene Glycol because this does not require multi-step thawing of frozen embryos

New vaccine on Influenza virus

- A potentially ground breaking seasonal flu vaccine has been developed by a team from Oxford University. This could be significant to the world and to India.

About Influenza virus:

- Influenza or flu is a viral seasonal respiratory disease to which older people and young children are the most vulnerable.
- Influenza viruses are classified into A, B, C and D types — A and B are known to cause seasonal epidemics; C causes mild respiratory illness, but not an epidemic.
- Influenza D affects cattle. Influenza viruses annually affect about a billion people worldwide, and cause 250,000 to 500,000 deaths, mainly in the over-65 age group.
- This new vaccine will target influenza viruses A, B and C.

Analysis:

- Under a microscope, the flu virus looks like a spherical pin cushion with lots of pins sticking out of it. Available vaccines use surface proteins that lie on the outside of flu cells — the heads of the pins — to stimulate the immune system, which ultimately produce antibodies. But every year, as the virus changes, the surface proteins (hemagglutinin and neuraminidase) also change.

Current Affairs

- Currently, every year, scientists are going back to the drawing board to predict how the virus might change, and what the new strain of flu might look like. Often, the vaccine doesn't work well because "by the time the vaccine has been made, the strain of virus that is causing the illness has changed".
- The new universal vaccine uses core proteins of the virus — lying inside the cushion — rather than the ones on the surface. This new vaccine targets conserved areas of the virus, and thus does not need to be changed year to year.
- The new vaccine will stimulate the immune system to boost influenza-specific T-cells (the body's own immunity-building cells), instead of antibodies, that kill the virus as it tries to spread through the body.
- Everyone has some influenza-specific T cells already, but their numbers are often too low to be protective. T-cells can help fight more than one type of flu virus and this, according to the researchers, means more people could be protected and the severity and duration of flu may be reduced.
- Current vaccines are only effective in 30% to 40% of over-65s as the immune system weakens with age.
- The flu burden in India is huge; the total number of cases until October 1 this year had crossed 36,000 countrywide, and the number of deaths was close to 2,000.

QUICK FACTS

- International Day of Older Persons is observed on : **October 1**
- Global Entrepreneurship Summit 2017 to be Held in : **Hyderabad**
- Turtle Sanctuary to be set up in : **Allahabad**
- First Edition of the ASEAN India Music Festival held in : **New Delhi**
- New Chairman of SBI chairman: **Rajnish Kumar**
- Bhimsen Joshi award for year 2017-18: **Manik Bhide**
- Winner of Malaysian Grand Prix: **Max Verstappen**