

GOVERNANCE

Growth in Bank Credit & Deposits: RBI

Recent data released by the Reserve Bank of India (RBI) showed that Bank credit and deposits grew and were higher in February 2021 than January 2021.

The credit and deposits for February 2021 were even higher than the pre-pandemic data of February 2020.

Key Points

At the end of February 2021: Bank credit grew by 6.63% to Rs.107.75 lakh crore which in February 2020 stood at Rs.101.05 lakh crore.

- Bank deposits grew by 12.06% to Rs.149.34 lakh crore which in February 2020 stood at Rs.133.26 lakh crore.

Reason for Credit Growth:

- The growth in bank credit is driven by an increase in retail loans.
- Retail loans include a vast range of different loans. Personal loans such as car loans, mortgages, signature loans and credit cards all fall into the category of retail loans, but business loans can also fall into the category of retail loans.
- The overall retail credit growth, which is currently at 9% is expected to accelerate further, led by mortgages (contributing 51% of retail loans) and back-end support by unsecured (cards/personal loans) and vehicle loans.

Bank Credit In India: The Bank credit in India refers to credit lending by various scheduled commercial banks (SCBs) to various sectors of the economy.

- The data on bank credit is collected on a monthly basis by the RBI.

Bank Deposits:

- Bank deposits consist of money placed into banking institutions for safekeeping. These deposits are made to deposit accounts such as savings accounts, current accounts, and money market accounts.
- The account holder has the right to withdraw deposited funds, as set forth in the terms and conditions governing the account agreement.

INDIAN ECONOMY

National Non-ferrous Metal Scrap Recycling Framework

The Ministry of Mines has issued a National non-ferrous metal scrap recycling framework, 2020 in a bid to cut down the scrap imports.

- It also seeks to use a life cycle management approach for better efficiency in the mineral value chain process.

Key Points

Objectives of the Recycling Framework:

- To work towards economic wealth creation, job creation and increased contribution to GDP through metal recycling.
- To promote a formal and well organized recycling ecosystem by adopting energy efficient processes.
- To minimize the effect of end of life products on landfills and environmental pollution by promoting an environmentally sound recycling system.
- To evolve a responsive ecosystem by involving all stakeholders.

Implementation Guidelines:

- The framework envisages setting up of a central Metal Recycling Authority to facilitate recycling of metals.
- The government will work towards establishing standards for Quality of scrap used for recycling.
- A mechanism for registration of segregators, dismantlers, recyclers, collection centers etc. will be developed to promote recycling to an organized sector
- It is proposed to set up Urban Mines, envisaged as a location to collect and hold large quantities of similar materials.
- An Online market platform/ exchange platform for recycled/secondary metal will be developed.
- Recyclers may explore the possibility of entering into collection contracts with industrial and commercial establishments.

Roles/ Responsibilities of Stakeholders:

- **Responsibility of Manufacturer:** To ensure that any Extended Producer Responsibility (EPR) guidelines/Regulations be strictly adhered to.
- Designing products that are easier to recycle and reuse in an efficient and environmentally sound manner.
- **Role of Public:** Public should responsibly dispose of scrap at designated scrap collection centers for their effective and environmentally sound processing.
- **Role of Government:** MoEF&CC to streamline the regulatory requirements, eliminating multiple clearances wherever feasible, for the recycling units.
- **Role of Recycling Authority:** Developing technical, safety and environmental norms and SOPs for handling and processing of scraps in consultation with MoEFCC, CPCB, BIS, etc.

INTERNATIONAL RELATION

BRICS Contact Group on Economic and Trade Issues (CGETI)

The BRICS Contact Group on Economic and Trade Issues (CGETI) held their first meeting under India's Chairship from 9-11 March 2021.

Key Points

- Theme: BRICS@15: Intra BRICS Cooperation for Continuity, Consolidation, and Consensus.
- The deliverables proposed are on: (1) BRICS Cooperation on Multilateral Trading system including cooperation for the TRIPS Waiver proposal at WTO; (2) Framework for Consumer Protection in E-Commerce; (3) Non-Tariff Measures (NTM) Resolution Mechanism; (4) Sanitary and Phyto-Sanitary (SPS) etc.
- BRICS is the acronym for five nations: Brazil, Russia, India, China, and South Africa.

SCIENCE AND TECHNOLOGY

New Technique for Monitoring of Power Transmission Cables

Recently, researchers at IIT Madras have demonstrated that power transmission cable can be monitored by using Raman thermometry on the fibre optic cable.

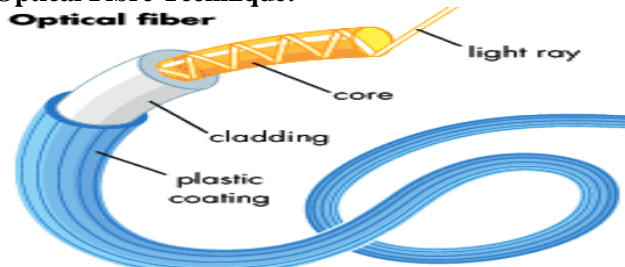
They achieved this by using the optical fibres that are already embedded in the power cables for establishing optical communication.

Key Points

Raman Thermometry:

- It is a thermal characterization technique which makes use of Raman scattering phenomena to determine the local temperature in microelectronics systems.
- When light is scattered off an object, say a molecule, two bands are observed, with higher and lower frequency than the original light, called the Stokes and anti-Stokes bands, respectively.
- By studying the relative intensity of the two bands, it is possible to estimate the temperature of the object which scatters the light.
- The anti-Stokes component of Raman scattering is strongly dependent on the temperature that the material is subjected to. Thus, by measuring the intensity of the anti-Stokes scattered light we can estimate the temperature.
- Any current flowing through a conductor would cause a temperature rise due to the Joule heating effect. Hence the flow of current through the power cables results in heating of the power cables.

Optical Fibre Technique:



- The temperature measurement of wires is performed in not just one location, but in a distributed manner using an optical fibre. To achieve this, a pulse of light is launched into the optical fibre and the backscattered radiation is observed.
- Optical fibres are fabricated with high quality composite glass/quartz fibres.

- Each fibre consists of a core (denser) and cladding (rarer).
- When a signal in the form of light is directed at one end of the fibre at a suitable angle, it undergoes repeated total internal reflections along the length of the fibre and finally comes out at the other end.
- Total internal reflection is complete reflection of a ray of light within a medium such as water or glass from the surrounding surfaces back into the medium.
- Since light undergoes total internal reflection at each stage, there is no appreciable loss in the intensity of the light signal.
- The time of flight of the backscattered radiation provides an estimate of the distance from which the light is backscattered.
- This constitutes a distributed measurement as the pulse propagates all along the length of fibre.
- This can go up to tens of kilometers.

Significance:

Actual Temperature Measurements:

- The use of Raman thermometry technique allows the operators to get the results for actual temperature measurements over tens of kilometres.

Economic and Real-Time:

- Alternative methods of measuring the temperature of power cables include using a thermal camera which is cumbersome. The present method devised by the team is both economical and provides real-time information.
- Thermal cameras detect temperature by recognizing and capturing different levels of infrared light.

NATIONAL DEVELOPMENT

Decline in India's Arms Imports: SIPRI

According to a recent report by Stockholm International Peace Research Institute (SIPRI) India's arms imports came down by a third (about 33%) between 2011-2015 and 2016-2020.

Key Point

Second Highest Importer: India remains the second highest importer, only behind **Saudi Arabia**.

Arms Suppliers to India:

- Russia is the largest arms supplier to India in both periods (2011-2015 and 2016-2020). However, Russia's share of Indian arms imports fell from 70% to 49%.
- France and Israel were the second and third largest arms suppliers in 2016-20. India's arms imports from France increased by 709% while those from Israel rose by 82%.
- The USA became the fourth largest supplier for the period 2016-20. It was the second largest arms supplier to India in 2011-15.

Indian Export:

- India accounted for 0.2% of the share of global arms exports during 2016-20, making the country the world's 24th largest exporter of major arms.
- This represents an increase of more than 200% over India's export share (0.1%) during the previous five-year period of 2011-15.
- Myanmar, Sri Lanka and Mauritius were the top recipients of Indian military hardware.

Future Trends:

- Owing to increasing threats from Pakistan-China, and a significant delay in domestic defence manufacturing, India's arms imports are expected to increase over the coming few years.

Reasons for the Fall in Imports:

- **India's Push for Self-Reliance:** The report said that the fall is not attributed to the government's push to make India self-reliant in defence manufacturing.
- Also, over 60% of the capital expenditure for the armed forces has been allocated for domestically produced weapons and platforms.
- Earlier, the government had announced a negative imports list of 101 defence equipment and platforms will provide an opportunity to manufacture the items in the negative list.
- **Complex Procurement Process:** The drop in Indian arms imports have been mainly due to its complex procurement processes, combined with an attempt to reduce its dependence on Russian arms.

ENVIRONMENT AND BIODIVERSITY**Seabuckthorn Plantation in the Cold Desert**

The Himachal Pradesh government has decided to start planting seabuckthorn in the cold desert areas of the state.

Key Points**About Seabuckthorn:**

- It's a shrub which produces an orange-yellow coloured edible berry.
- In India, it is found above the tree line in the Himalayan region, generally in dry areas such as the cold deserts of Ladakh and Spiti.
- In Himachal Pradesh, it is locally called chharma and grows in the wild in Lahaul and Spiti and parts of Kinnaur.
- A major part is covered by this plant in Himachal Pradesh, Ladakh, Uttarakhand, Sikkim and Arunachal Pradesh.
- The Seabuckthorn Plantation has many Ecological, Medicinal and Economical benefits.

**Ecological Benefits:**

- Seabuckthorn is a soil-binding plant which prevents soil-erosion, checks siltation in rivers and helps preserve floral biodiversity.
- In the Lahaul valley, where willow trees are dying in large numbers due to pest attack, this hardy shrub is a good alternative for protecting the local ecology.
- Grows well in dry regions and becomes much more important especially in the light of reduced water flow from Himalayan glaciers.

Medicinal Benefits:

- As a folk medicine, seabuckthorn has been widely used for treating stomach, heart and skin problems.
- Its fruit and leaves are rich in vitamins, carotenoids and omega fatty acids and it can help troops in acclimatising to high-altitude.
- In the last few decades, scientific research worldwide has backed many of its traditional uses.

Economical Benefits:

- Seabuckthorn also has commercial value, as it is used in making juices, jams, nutritional capsules etc.
- It is an important source of fuelwood and fodder.
- However, wild Seabuckthorn cannot sustainably supply raw material to the industry, and the plant needs to be cultivated on a large scale as is being done in China.

INTERNAL SECURITY**Illegal Influx from Myanmar**

Recently, the Ministry of Home Affairs (MHA) has directed Nagaland, Manipur, Mizoram and Arunachal Pradesh to check illegal influx from Myanmar into India.

- The instructions have also been given to Border Guarding Force (BGF), i.e. Assam rifles.
- India already has a lot of Rohingya migrated from Myanmar.
- India, treats all refugees entering the country as illegal immigrants.
- In 2020, it was estimated that 40,000 Rohingya refugees lived in India, scattered across different states.

Key Points**MHA's Instructions:**

- The State governments have no powers to grant "refugee status to any foreigner" and India is not a signatory to the United Nations Refugee Convention of 1951 and its 1967 Protocol.

- Similar Instructions were Issued in August 2017 and February 2018.

Background:

- The directive comes weeks after the military coup and subsequent crackdown in Myanmar which led to several persons crossing over into India.
- The Tatmadaw, or Myanmar military, had taken over the country after a coup in February 2021.
- North Eastern States readily provide shelter to people from across the border as some of the states have cultural ties with some border areas of Myanmar and many people have family relations as well. This had resulted in some states taking a sympathetic view of those fleeing Myanmar and giving them shelter.
- Already there are clashes among the tribes (example Bru), more refugees will further aggravate the situation.

Recent Influx:

- More than a dozen foreign nationals including policemen and women from Myanmar have fled to neighbouring Mizoram.

India Myanmar Border:

India and Myanmar share a 1,643 km border and people on either side have familial ties.

- Mizoram shares 510-km.
- Manipur shares 398-km.
- Arunachal Pradesh shares 520 kms.
- Nagaland shares 215 kms

The border along the four states is unfenced and porous.

Free Movement Regime:

- A Free Movement Regime (FMR) exists between India and Myanmar.
- Under FMR every member of the hill tribes, who is either a citizen of India or a citizen of Myanmar and who is resident of any area within 16 km on either side of the Indo-Myanmar Border (IMB) can cross the border with a border pass (with one-year validity) issued by the competent authority and can stay up to two weeks per visit.

IMPORTANT FACTS FOR PRELIM

Bhadar Dam: Gujarat

Recently, the Dam Safety Organisation of the Central Water Commission has recommended replacement of floodgates of Bhadar dam which were damaged in the flash flood of 2015.



Key Points

- Bhadar dam is located in Rajkot and is second largest in Saurashtra region after Shetrunji dam.
- Bhadar dam is on the Bhadar River in Saurashtra region in Gujarat.

Bhadar River:

- The Bhadar is one of the major rivers of Kathiawar (Saurashtra) peninsula in Gujarat.
- It originates near Vaddi in Rajkot district at an elevation of 261 m above mean sea level.
- It flows through the Saurashtra region and finally confluence with Arabian sea at Naviobandar (Porbandar).
- The total length of this river is 198 km. It drains about 1/7th of the area of Saurashtra.

DAILY ANSWER WRITING PRACTICE

Qns. India needs to harvest quantum computing for strategic and economic development. Discuss. (150 Words)

Ans:

Unlike conventional computers which process information in 'bits' or 1s and 0s, Quantum computers compute in 'qubits' (or quantum bits). They exploit the properties of quantum mechanics, the science that governs how matter behaves on the atomic scale.

- In this scheme of things, quantum computers process information in such a way that it can be a 1 and a 0 simultaneously. This state is called quantum superposition. Due to this, Quantum Technologies not just have ultra-fast computing capabilities, but also has strategic and economic advantages.

Applications of Quantum Computing

- **Secure Communication:** China recently demonstrated secure quantum communication links between terrestrial stations and satellites.
- This area is significant to satellites, military, and cybersecurity among others as it promises unimaginably fast computing and safe, unhackable satellite communication to its users.
- **Disaster Management:** Tsunamis, drought, earthquakes, and floods may become more predictable with quantum applications.
- The collection of data regarding climate change can be streamlined in a better way through quantum technology.
- **Scientific Research:** It can help in solving some of the fundamental questions in physics related to gravity, black hole, etc.
- Similarly, quantum computing could give a big boost to the Genome India project.
- This in turn will have a profound impact on agriculture, food technology chains, and the limiting of farmland wastage.
- **Pharmaceutical:** Quantum computing could reduce the time frame of the discovery of new molecules and related processes to a few days from the present 10-year slog that scientists put in.
- For instance, tracking protein behavior or even modeling new proteins with the help of quantum computers could be made easier and faster.
- Tackling chronic diseases like cancer, Alzheimer's and heart ailments is a big possibility of the technology.
- **Augmenting Industrial revolution 4.0:** Quantum computing is an integral part of Industrial revolution 4.0.
- Success in it will help in Strategic initiatives aimed at leveraging other Industrial revolution 4.0 technologies like the Internet-of-Things, machine learning, robotics, and artificial intelligence across sectors will further help in laying the foundation of the Knowledge economy.

Conclusion

- Realizing the potential application of quantum computing, the government of India launched the National Mission for Quantum Technologies & Applications. Under this government seeks to provide investment on a massive scale and on a par with similar programs announced recently by the United States and Europe.
- However, the actual realization of this path-breaking technology remains one of the great challenges faced in the fields of Quantum Computing.

DAILY QUIZ

1. Which of the following statements is/are correct?

1. Raman Thermometry technique is used to determine the local temperature in microelectronics systems.
2. The Raman scattering phenomena is used for temperature detection.
3. C.V Raman won the Nobel prize in science for the discovery of Raman scattering.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

2. Consider the following statements:

1. Seabuckthorn is a shrub found in the cold desert of India.
2. The cold desert of India stretches from Ladakh to Sikkim in the Himalayas.

Which of the statements given above is/are correct?

- a) **1 only**
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

3. With reference to Bhadar River, consider the following statements:

- 1. Bhadar river originates from Malwa Plateau region.
- 2. It flows through the Aravali and finally meets the Arabian sea.

Which of the statements given above is/are correct ?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) **Neither 1 nor 2**

4. Consider the following statements:

- 1. The State Election Commission conducts the election of the legislative assembly and the local bodies in the state.
- 2. The State Election Commissioner is appointed by the President of India.

Which of the statements given above is/are correct?

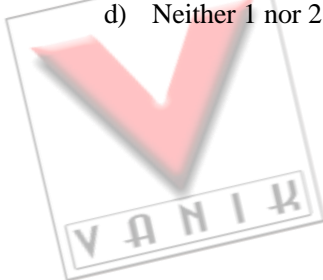
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) **Neither 1 nor 2**

5. With reference to the 'Refugee in India', consider the following statements:

- 1. In India the State governments have no powers to grant refugee status to any foreigner.
- 2. India is not a member of the United Nations Refugee Convention of 1951.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) **Both 1 and 2**
- d) Neither 1 nor 2



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