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TATHASTU

Institute of Civil Services



Daily Current Affairs

8th June 2023

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Cyber security challenges in India

News: The **Data Security Council of India** released a study called '**Bridging the Gap: Identifying Challenges in Cybersecurity Skilling and Bridging the Divide.**'

About DSCI:

- It is a **not-for-profit, industry body** on data protection setup by NASSCOM in 2008.
- It is committed to making cyberspace safe, secure and trusted by establishing best practices, standards and initiatives in cyber security and privacy.

Cybersecurity in India:

- Cybersecurity refers to every aspect of protecting an organisation and its employees and assets against cyber threats.
- India, as a nation undergoing rapid digitisation across various sectors, is not immune to the increasing number and severity of cyber threats.
- To address these challenges, stakeholders in the ecosystem have implemented several initiatives to promote Cybersecurity in the country. For example, The **Indian Computer Emergency Response Team (CERT-In)**, set up by the Government of India, to provide guidance and support in the event of cyber incidents;
- Programs like **Cyber Shikshaa**, implemented by **Microsoft and DSCI**, to skilled professionals in the Cybersecurity domain and to generate awareness among people.
- Although the industry has ample potential to grow, there is still a **deficit of skilled workforce** to cater to the demands of the sector.

What does the study reveal?

- It aims to **Analyse** the demand and supply of skilled cybersecurity professionals in India, **Identify** technical and social factors contributing to the shortage of skilled professionals, and **Explore** solutions to address these gaps through CSR and a multi-stakeholder approach.
- The top three attacks that are expected to see a substantial rise in the near future are **phishing, smishing, and vishing attacks**, followed by **ransomware attacks** and **zero-day** attacks.
- Phishing scams trick users into **divulging sensitive data, downloading malware**, and exposing themselves or their organisations to cybercrime.
- Smishing often involves **sending bogus text messages** and
- Vishing uses **voice and telephony technologies** to trick targeted individuals into revealing sensitive data to unauthorised entities.
- Zero-day attacks take place when **hackers exploit the flaw before developers have a chance to address it.**
- Three vital trends that will influence the cybersecurity demand are the use of Machine learning, Artificial Intelligence, IoT devices and excessive usage of digital platforms resulting in the exchange of large amounts of data.

Which cybersecurity jobs are the most in-demand?

- Cybersecurity Risk Analyst, Cybersecurity Analyst, and Penetration Tester are the most prevalent job roles at present.
- They constitute less than 5% of their company's overall workforce.
- 43% of corporations have women participation between 21%-40% of the overall Cybersecurity workforce.

Key Recommendations:

- Perform **risk assessments** at regular intervals.
- It is crucial to have **Multi-stakeholder collaboration** to map industry-relevant skills, and design and deliver skilling programs as per industry standards.
- Corporates can play a pivotal role [through their Corporate Social Responsibility (CSR)] by **incorporating and sponsoring Cybersecurity certification** (addressing the certification gaps) as a part of their skilling initiatives.

Low-cost finance for energy transition – IRENA

News: A recent report called '**Low-cost finance for energy transition,**' released by the **International Renewable Energy Agency (IRENA)**, has recognized and praised India's outstanding progress in expanding its renewable energy capacity.

About India's renewable energy story:

- The renewable energy sector has seen **unprecedented growth** driven by **national targets** of 175 GW of renewable energy capacity by 2022 and 500 GW of non-fossil fuel capacity by 2030.
- India ranked **third** on the **Renewable Energy Attractive Index** in 2021, and its solar and wind power base is the fourth largest in the world.
- The **Indian Renewable Energy Development Agency Limited (IREDA)** has promoted emerging technologies such as battery energy storage systems, green hydrogen electrolyzers, e-mobility, and waste-to-energy through innovative financing policies.
- **India Sovereign Green Bond Issuance** to mobilize private sector capital for **sustainable development** and **lower the cost of capital** for green projects by tapping into new investors.

Key Highlights of Report:

- Renewable power generation technologies, notably **solar photovoltaic** and **onshore wind power**, have become mature and competitive. Additionally, technology such as offshore wind, hydrogen electrolyzers, heat pumps, and energy storage should be deployed faster and at greater scales.
- The report recommends policies to support industry innovation, especially during the early R&D to foster commercially mature solutions with reduced costs.
- Investment in energy transition technologies: With a focus on renewable energy, energy efficiency, electrification and enabling infrastructure – end-use electrification – to fully capture the benefit of renewable power.

Way Forward

- The report recommends using the wide-ranging experience of EU countries both in terms of getting access to technology and innovative financing solutions to reduce the cost of capital.
- It highlights the importance of Domestic financial markets as they provide diversified funding sources (corporate bond markets) to avoid currency risk and help mitigate macroeconomic shocks.

Prepaid Payment Instrument (PPI)

News: Recently a committee was set up to review the Customer Service Standards in RBI Regulated Entities has recommended that “ the central bank should examine the extension of DICGC cover Prepaid Payment Instrument (PPI) to, which, at present, is available only to bank deposits.”

About PPI:

- Prepaid payment instruments (PPIs) help facilitate the purchase of goods and services, including financial services, remittances and fund transfers to family and friends against the value stored on such instruments.
- These instruments are generally pre-loaded cards and, in some cases, have a pre-defined purpose of payment.
- Some examples of PPIs include Paytm and GPay (semi-closed system PPIs), gift cards (closed system PPIs) and debit or credit cards (open system PPIs).

Who can issue PPI instruments?

- PPIs can be issued by banks and non-banks after obtaining approval from the RBI.
- As on November 9, 2022, over 58 banks including Airtel Payments Bank, Axis Bank, Bank of Baroda, Jio Payments Bank, Kotak Mahindra Bank, Standard Chartered Bank, UCO Bank and Union Bank have been permitted to issue and operate prepaid payment instruments.

What did the committee say?

- The committee mentioned that the RBI has authorised a number of banks and non-banks entities to issue PPIs in the country.
- The money kept in wallets is in the nature of deposits. However, currently, the DICGC cover extends only to bank deposits.
- Being deposits with the PPI issuers who are also regulated by the Reserve Bank, extending deposit insurance to the PPI segment needs examination.

About Deposit Insurance and Credit Guarantee Corporation:

- DICGC is a **wholly-owned subsidiary** of the **RBI** and provides **deposit insurance**.

- The deposit insurance system plays an important role in maintaining the stability of the financial system.
- The deposit insurance extended by DICGC covers all commercial banks including local area banks (LABs), payments banks (PBs), small finance banks (SFBs), regional rural banks (RRBs) and cooperative banks, that are licensed by the RBI.
- DICGC insures all deposits such as savings, fixed, current and recurring including accrued interest.
- Each depositor in a bank is insured up to a maximum of Rs.5 lakh for both principal and interest amount held by them as on the date of liquidation or failure of a bank.

The Global Stocktake

News: The global stocktake's third and final technical dialogue gets underway at the Bonn Climate Change Conference.

What is GST?

- Global Stocktake, or GST, is a term that is expected to come up frequently in climate change conversations this year. Mandated by the 2015 Paris Agreement, GST is an exercise aimed at **assessing the progress being made in the fight against climate change**, and **deciding ways and means to enhance** the global effort to bridge the adequacy gap.
- The current stocktake is the first such exercise and is mandated by the Paris Agreement to happen every five years hereafter. Essentially, it is an opportunity for course correction.
- The current set of actions are woefully inadequate to limit the global temperature rise within 1.5 degree Celsius from pre-industrial times.
- The most notable of these is the **sixth assessment report** of the Intergovernmental Panel on Climate Change (IPCC), published over the last four years. The world needs to **cut its emissions by almost half by 2030** from the 2019 levels if it has to retain any realistic chances of achieving the 1.5-degree target. At **current levels** of climate action, the world is headed to a nearly **3 degree Celsius warmer** world by 2100.

What are the challenges?

- Collective action of every country will still be inadequate thus there is a need for some imposition measures but most countries are not same terms in this matter.
- Thus, the GST discussions are fraught with the same troubles as the rest of the climate negotiations — apportioning responsibility for enhanced climate action.
- Rich and developed countries want major emitters like China and India, and others, to do more.
- USA wants the next round of climate action plans finalised by countries that must have emission reduction contributions **from all sectors of the economy. Primarily directed at India**, whose climate commitments are mainly about increasing renewable energy footprint, improving energy efficiency, and augmenting its forests and **not committing to restricting methane emissions from agriculture**.

What was India's reaction?

- India said it retained its **"sovereign right"** to determine its climate targets in pursuit of its national goals. It also said that it did not accept the suggestions that NDCs must necessarily be economy-wide.

What did China say?

- China pointed out that there was now **irrefutable scientific evidence** to show that a bulk of the carbon dioxide emissions from 1850 to 2018 had been generated before 1990 thus targeting developed countries.

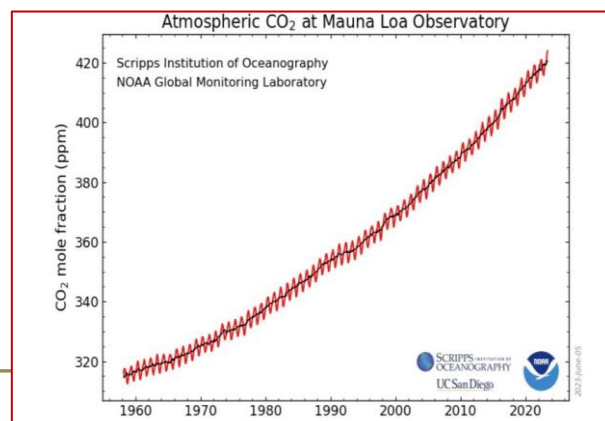
Facts for Prelims

Keeling Curve

News: The Mauna Loa Observatory in Hawaii measures carbon dioxide molecules in dry air. The data collected are known as the Keeling Curve, and new data was released this week.

About:

- The National Oceanic and Atmospheric Administration (NOAA) and the Scripps Institution of Oceanography



reported a new record for carbon dioxide in the atmosphere. It was also the **fourth-highest** year-to-year increase in CO₂ in the history of the Keeling Curve.

- Carbon dioxide levels are now at **424 parts per million (PPM)**. That's up to three PPM from May of last year. Levels of carbon in the atmosphere, and the global warming that comes with it, continue to march upward.

Commission of Railway Safety

News: Investigation into the recent tragic train accident in Odisha is being conducted by the Commission of Railway Safety for the south-eastern circle.

About:

- CRS is a government body that acts as the railway safety authority in the country. It deals with matters related to the safety of rail travel and operations, among some other statutory functions – inspectorial, investigatory, and advisory – as laid down in the Railways Act, of 1989.
- HQ - Lucknow, Uttar Pradesh.
- It is under the administrative control of the **Ministry of Civil Aviation (MoCA)** instead of the Ministry of Railways to keep the CRS insulated from the influence of the country's railway establishment and prevent conflicts of interest.

NIRF Ranking 2023

News: The National Institutional Ranking Framework (NIRF) Ranking 2023 was announced recently, showcasing the excellence and achievements of various educational institutions in India.

Key Findings:

- **IIT-Madras** maintained its dominance as the **top** engineering institution in India for the **eighth consecutive year**.
- **Indian Institute of Management (IIM), Ahmedabad**, claimed the **top position** as the leading management institute in India.
- The **National Law School of India University, Bengaluru**, emerged as the top law institute in the country.
- **Delhi University (DU)** made its mark in the rankings, with five of its colleges securing positions in the **top 10 colleges** in India. **Miranda House** retained its top position, while Hindu College secured the second spot.
- The National Institute of Pharmaceutical Education and Research, Hyderabad, was recognized as the leading pharmacy institute in India.

About NIRF:

- Approved by the Ministry of Education, The NIRF is a methodology to rank institutions across the country based on various parameters.
- It is the first-ever effort by the government to rank Higher Education Institutions (HEIs) in the country.

KFON

News: Recently, Kerala Chief Minister Pinarayi Vijayan launched the KFON, Kerala Fibre Optic Network project.

About:

- The project aims to ensure internet facilities for all at **affordable rates** in the State.
- It also aims to give **free internet to over twenty lakh** poor families. While inaugurating Chief Minister said, by providing internet facilities at a lower rate, Kerala aims to **bridge the digital divide** in the society.
- KFON network is being set up by the Kerala government in collaboration with the Kerala State Electricity Board and the Kerala State Information Technology Infrastructure Ltd.