

**SCIENCE & TECHNOLOGY**

**NEW CYBERSECURITY GUIDELINES BY CERT-IN**

Recently, the Indian Computer Emergency Response Team (CERT-In) has issued new guidelines for cyber incidents.

**New Guidelines**

- **Mandatory:** The Indian Computer Emergency Response Team (CERT-In) has mandated that:
  - All cybersecurity incidents must be informed to it by the respective companies within six hours of either being made aware of the incident or becoming aware itself.
  - Service providers, intermediaries, data centres, companies and government organisations enable logs of all their ICT systems and maintain them securely for a rolling period of 180 days.
- **Incidents includes:**
  - Targeted scanning or probing of critical networks and systems,
  - Compromise of critical systems and information,
  - Unauthorised access of data and systems among others.
- **Maintain information:**
  - Virtual asset service providers, virtual asset exchange providers and custodian wallet service providers shall maintain all the information they have gathered as a part of the know your customer (KYC) process and records of financial transactions for a period of five years.
- **Information retrieval:**
  - With respect to transaction records, accurate information shall be maintained in such a way that individual transactions can be reconstructed.
  - It is to be done along with the relevant elements comprising of, but not limited to:
    - Information relating to the identification of the relevant parties including IP addresses along with timestamps and time zones,
    - Transaction ID,
    - The public keys (or equivalent identifiers),
    - Addresses or accounts involved (or equivalent identifiers),
    - The nature and date of the transaction, and
    - The amount transferred
- **Reason for New Guidelines:**
  - The guidelines came because during the course of handling cyber incidents and interactions with the constituency, it has identified certain gaps causing hindrance in the analysis of breach incidents.
- **Issues in Present System**
  - Accurate information relating to customers/subscribers were not present.
  - Mostly the information is either deleted or not stored at all.
  - Proper maintenance or reporting of the data was missing.
  - Personal data leakage has also been a troublesome issue. Some companies continued to ignore alerts by cyber security researchers and acted only after the data was made public.
  - Users are not informed of the data breach and hence are not able to protect themselves from cyber crimes.
  - Users are still unaware if their KYC (Know Your Customer) and financial data is safe or not.

**Indian Computer Emergency Response Team (CERT-In)**

- **Operational:** CERT-In has been operational since January 2004.
- **The constituency of CERT-In** is the Indian Cyber Community.
- **CERT-In** is the national nodal agency for responding to computer security incidents as and when they occur.
- **Power:** CERT-In is empowered under Section 70B of the Information Technology Act to collect, analyse and disseminate information on cyber security incidents.
- It has been designated to serve as the national agency to perform the following functions in the area of cyber security:
  - Collection, analysis and dissemination of information on cyber incidents.
  - Forecast and alerts of cyber security incidents

- Emergency measures for handling cyber security incidents
- Coordination of cyber incident response activities.
- Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents.
- Such other functions relating to cyber security as may be prescribed.

**What are the reasons for increasing Cyber attacks?**

- **Adverse relations with China:** China is considered one of the world leaders in information technology. Therefore, it is expected to have capabilities to disable or partially interrupt the information technology services in another country.
- **Asymmetric and covert warfare:** Unlike conventional warfare with loss of lives and eyeball to eyeball situations, cyber warfare is covert warfare with the scope of plausible deniability, i.e. the governments can deny their involvement even when they are caught. Therefore, cyber warfare has increasingly become the chosen space for conflict between nations.
- **Increasing dependency on technology:** As we grow faster, more and more systems are being shifted to virtual space to promote access and ease of use. However, the downside to this trend is the increased vulnerability of such systems to cyber-attacks.

**Government steps to ensure Cyber Security**

- **Institutional Structure:** India has a well-organised structure to regulate and strengthen the national information technology systems across the country. This includes the National Cyber Security Council as well as Computer Emergency Response Team – India (CERT-In).
- **Banning of potentially unsafe apps:** Recently, India had banned many apps (mostly of Chinese origin), which were found to be unsafe for usage by the Indian citizens. The apps were allegedly transferring data to the servers located outside India and did not have proper safeguards to ensure that the private data of Indian citizens was protected from unauthorised access.
- **Personal Data Protection Bill:** The bill mandates strengthening of data infrastructure by the private companies to safeguard the data of individuals. Therefore, there is a focus on including the private companies in the ambit of data protection, rather than restricting it to the government only.
- **Upcoming Cyber Security Strategy:** Cyber Security Strategy aims to prepare a comprehensive document on preparing for and dealing with the cyber-attacks and securing the cyberspace in the country. For e.g. the strategy identifies three stages in the arena of cyber-attacks:
  - **Pre attack or Preparatory Phase:** In this stage, the systems' gaps are identified and they are plugged in. The focus is on strengthening the defence mechanism and the firewalls and keeping the system up to date so that any potential threat is averted and the system is not compromised.
  - **During the Attack:** At the time of the attack, the focus is on stopping it as soon as possible and minimising the damage to the system. Also, it is to be ensured that the critical assets and data are not lost to the attack. When the attackers have been pushed out of the system, the focus shifts to restoring the services so that the consumers do not face long outages.
  - **Post-Attack Phase:** After the attack is over and the system is restored to normalcy, the focus is on identifying the loopholes or gaps in the system, understanding how the reaction could have been more swift and creating Standard Operating Procedure (SOPs) in case of similar future attacks.

**Challenges with Cyber Security**

- **Low digital literacy among the general public:** The general level of awareness in India about internet etiquette is low. It is often reported that people are duped easily by click-baiting them into clicking interesting content, which often has malware attached to itself.
- **Vulnerable points in the system:** There is a need to find and address the vulnerable points in the system, which might allow unauthorised entry into the system. For e.g. it is expected that the sensitive nuclear data is protected by heavy encryption, but the users may be vulnerable to human errors while accessing the systems.

- **State-sponsored Cyber Attacks:** The problem with such state-sponsored attacks is the unlimited funding received by the hackers to break into the foreign systems. This means that to counter such threats from China or other countries, we need to allocate sufficient resources, which can proportionately deter the systems from being compromised.

#### Way Ahead

- **Increased awareness and monitoring:** In the era of cyber wars, the only thing which has the potential to prevent vulnerability is information control. There is a need to enhance the general awareness levels of the government installations as well as the general public to counter such threats.
- **Strengthening the policy and ecosystem:** The need of the hour is to come up with a futuristic National Cyber-Security Policy which allocates adequate resources and addresses the concerns of the stakeholders.
- **Pre-empting the cyber-attacks:** There is a need to invest in the right tools and technologies apart from the human resources, which can predict and detect the cyber attacks early, so that preventive steps could be taken while the time is still on our side.
- **Capacity Building:** Unlike other sectors requiring huge machinery and equipment, information technology is one sector which is highly dependent upon the skill level of human resources more than anything else.
- **Continuous Testing:** There is a need to conduct regular and frequent checks of the existing system by bringing in ethical hackers and other experts on board so that if there are chinks in the system, they can be addressed swiftly before they are exploited by the hackers.
- **Partnership with the private sector:** There is a need to collaborate and cooperate in erecting defences against outside intruders, who try to gain unauthorised entry into the system.
- **Classification and prioritisation of the assets:** Although all sectors are important and need to be protected from outside intrusion, there is a need for classification of assets and systems in such a way that the core systems have multiple layers of protection. This includes power and energy systems, which might lead to a cascading effect on the economy as the supply of power is critical for the proper functioning of the dependent systems.
- **Sharing the Best Practices:** Cyber systems are extensive in nature. Also, they are staggered across the spectrum. Therefore, it makes sense to collate the experience of the different entities together to form a comprehensive knowledge base, which can be utilised in case of future incidents.

#### IMPORTANT FACTS FOR PRELIM

##### 1. Farmer Distress Index (FDI): NABARD

The National Bank for Agriculture and Rural Development (Nabard) is planning to formulate a Farmer Distress Index (FDI) to track, identify and support “needy and distressed farmers.”

##### About Farmer Distress Index (FDI)

- It can integrate the available high-frequency data on key agricultural variables like deviation of monsoon rains, excessive rainfall, drought and dry spells, variations in temperature and soil moisture, and yield of major crops in the district, among others.
- It can be used by the policymakers and the government to plan and design a timely and targeted method of supporting distressed farmers.
  - Depending on the level of distress, the government and the financial institutions can decide on an appropriate package of support instead of the current practice of doling out distress packages to all the farmers across the board.
- It won't be uniform across the country as it changes from place to place depending on the stress levels.

##### Significance

- According to a study, more than 60 per cent of the ‘very high’ and ‘high’ distress small and marginal farmers (SMFs) did not receive farm loan waiver (FLW) benefits.
  - The exclusion rate was also 60 per cent for the medium distress category SMFs.
  - It will help really needy and distressed farmers.
- It will also help the entire financial sector, government departments and insurance companies.

##### 2. Museums Grant Scheme

The Union Ministry of Culture granted ₹3.75 crores under the ‘Upgradation of Museums Scheme’ for the ₹5-crore project in Eluru town of Andhra Pradesh.

### What is a Museum?

- As per the ICOM (International Council of Museums), A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.

### Museum Grant Scheme

- The Scheme was launched in 2013.
- Objectives:**
  - To provide financial assistance to the State Governments, Autonomous bodies, Local Bodies, Societies and Trusts registered under the Societies Act for setting up of new Museums as well as for the development of existing museums.
  - To develop at least 1 Central / State Government Museum located in a State Capital each year.

### Components:

- It has three components:**
  - Component A:** Establishment and Development of District and Regional Museums: Under this component, museums have been classified into two categories- Category-I: Government-owned State level Museums and renowned Museums with exquisite collections and Category-II: all other Museums.
  - Component B:** Development of Museums in State Capitals: Financial assistance under this component is provided to existing renowned museums of the Central or State Government located in the Capital cities.
  - Component C:** Establishment and Development of Large Scale Museums in Public-Private Partnership Mode: Under this component, it is proposed to establish large scale museums as joint ventures with State Governments and civil society in the Public-Private partnerships Mode.
  - The maximum financial assistance provided under this component is 40% of the project cost subject to a maximum of Rs. 20 Crore per museum.

### DAILY ANSWER WRITING PRACTICE

**Q1. The future of SAARC remains bleak but it is in India's interests to take the lead and work collectively towards a secure and prosperous South Asia. Critically Analyse. (250 words)**

#### Introduction

SAARC was mooted in 1985, which created the hope that trade, cultural activity and intellectual exchange would gradually diminish the political legacies of Partition by nourishing a regional fraternity. The dream is still relevant, but SAARC has remained incapable of responding to the unabated rise of identity-based aggression and violence. Along with this, a remarkable degree of indifference to others' woes has grown.

#### Body

##### The Future of SAARC remains bleak:

- The region is beset with unsettled territorial disputes, as well as trans-border criminal and subversive activities.
- It remains a theatre for ethnic, cultural, and religious tensions and rivalries.
- A current rise in ultra-nationalism is taking place against the backdrop of a bloody history of repeated inter-state wars and myriad intra-state conflicts.
- Nuclear-armed neighbours India and Pakistan are at loggerheads.
- Cross-border terrorism has again made the region, as former US President Bill Clinton once deemed it, "the world's most dangerous place."
- Allowing SAARC to become dysfunctional and irrelevant greatly distorts our ability to address the realities and mounting challenges facing SAARC nations.
- The failure of South Asian nations to act in accord will plunge South Asia into a perilous theatre of discord and escalating tensions with jihadi militias at the forefront, placing the entire region in turmoil.

##### SAARC is imperative for South Asian countries:

- SAARC is needed as institutional scaffolding to allow for the diplomacy and coordination that is needed between member-states in order to adequately address the numerous threats and challenges the region faces.



- Though SAARC's charter prohibits bilateral issues at formal forums, SAARC summits provide a unique, informal window — the retreat — for leaders to meet without aides and chart future courses of action.
- The coming together of leaders, even at the height of tensions, in a region laden with congenial suspicions, misunderstandings, and hostility is a significant strength of SAARC that cannot be overlooked.
- SAARC members are among the top troop-contributing countries to UN peacekeeping missions. With the US withdrawal from Afghanistan, a joint peacekeeping force from the SAARC region under the UN aegis could be explored to fill the power vacuum that would otherwise be filled by the terrorist and extremist forces.

**Reviving SAARC is in India's interests:**

- India should take the lead and work with its neighbors to slash the tariff and non-tariff barriers.
- SAARC should also seek free and preferential trading arrangements with other regional bodies, notably the EU and the ASEAN. It should also remain fully focused on the SAARC social charter to spread out its reach to the common man.
- There is a need to focus on small politics instead of big politics to resolve conflict in conflicting regions. This would mean that they focus on economic cooperation and other small ways that can create cooperation and more peace
- SAARC cannot be effective unless it places itself on a managerial position to achieve regional order, forcing all the members to act mutually in making the region a 'zone of peace' and the center for world business.
- All countries should come together to sort out their differences, either multilaterally or bilaterally. It's not necessary to sort out the differences but despite that, it is necessary to work with the differences like that of India-China, Japan and China, Russia and Japan.
- The bilateral issues between member nations should be resolved. Bilateral Issues between India-Pakistan, India- Sri Lanka, Pakistan- Afghanistan etc. must be improved with serious engagement and collaboration – working together to bring peace and stability as a common good in the region.
- Information on terrorism, trafficking, smuggling etc. must be shared and joint exercises must be conducted to build mutual trust and capability.
- SAARC needs to work on Improving infrastructure and regional connectivity – Collaboration in scientific research, universities exchange programs, tourism etc. will have a positive effect on relations among countries.

**Conclusion:**

SAARC has the potential to transform the South Asian Region. Mutual mistrust and non-cooperation should not be allowed to undermine this potential. Deeper regional economic integration will create greater interdependence with India acquiring the central role, which, in turn, would serve India's strategic interests too. SAARC should function as an autonomous institution by which driving principles, strategic actions, and rules of law can be implemented in a way that is relevant to both, its own members and other rising powers. Neighbours believe in its nuclear doctrine through effective confidence building measures.

**DAILY QUIZ**

- Genetic Engineering Appraisal committee is constituted under the
  - Food safety and Standards Act 2006
  - Geographical Indications of goods (Registration and Protection) Act 1999
  - Environment (Protection) Act 1986**
  - Wild life (Protection) Act 1972
- Proper design and effective implementation of REDD+ programme can significantly contribute to
  - Protection of biodiversity
  - Resilience of forest ecosystem
  - Poverty reduction
 Select the correct answer using the code given below.
  - 1 and 2 only
  - 3 only
  - 2 and 3 only
  - 1, 2 and 3 only**
- Gadgil committee report and Kasturirangan committee report sometimes seen in news, are related to
  - Constitutional reform
  - Ganga action plan
  - Linking of rivers
  - Protection of western ghats**

4. Anabolic steroids have often been in news, consider the following statement with respect to anabolic steroid
  1. Anabolic steroids are essentially natural male hormone
  2. It helps to treat anaemia.
 Choose the correct statement using the codes given below
 

a) 1 only	<b>b) 2 only</b>
c) Both	d) Neither 1 nor 2
5. Consider the following
  1. India's energy ecosystem is highly carbon intensive
  2. About 38 per cent of primary energy is consumed for power generation
 Choose the correct statement/s using the codes given below
 

a) 1 only	b) 2 only
<b>c) Both</b>	d) Neither 1 nor 2
6. The term "e-CHARAK" recently in news is related to
 

a) Labour insurance	<b>b) Medicinal plants</b>
c) Textile industry	d) Both a and c
7. Consider the following statement
  1. The status of Delhi is an Union Territory under Schedule 1 of the Constitution
  2. Chief minister of Delhi is appointed by Lieutenant Governor
 Which of the above statement is or are not correct
 

a) 1 only	<b>b) 2 only</b>
c) Both	d) Neither 1 nor 2
8. Examine the following statements choose the correct statement
  1. The share of jute used for sacks has been , increased during last 10 years
  2. Jute used for manufacturing other products (such as furnishing materials, fashion accessories, floor coverings or varied applications in paper and textile industries) has declined from during last 10 years.
  3. There is no legal backup or mandate for use of jute bags for package of food grains
  4. India is the largest producer of jute followed by Bangladesh
 Codes:
 

a) 1 and 2 only	b) 2 and 3 only
c) 3 only	<b>d) All are correct except 3</b>
9. Which of the following is not a tributary of Brahmaputra river in within Indian territory
 

a) Subansiri	b) The manas
<b>c) Teesta</b>	d) Dhansiri
10. Consider the following statements
  1. India is the 3rd largest producer of salt
  2. India is the largest producer of iodised salt followed by china
 Choose the incorrect statement using the code given below
 

a) 1 only	<b>b) 2 only</b>
c) Both	d) Neither 1 nor 2