



Day 29

 drishtiias.com/printpdf/day-29

Science and Tech: Information and Nuclear Technology

Cyber Security

- **Cyber Security Framework In India**
- **Cyber Frauds and Covid-19**
- **Spyware Pegasus**
- **Ransomware - WannaCry**
- **Malware Smominru**
- **TikTok-app-ban-case**
- **Regulation of Public Data**
- **Jio-Facebook Deal and Its Implications**
- **Personal Data Protection Bill 2019**
- **Convention on Global Cybercrime**
- **Zoom- Not a Safe Platform: MHA**

Digital Technologies & Related Concepts

- **China to Launch Official Digital Currency**
- **Social Media And Democracy**
- **Quantum Technology**
- **Quantum Supremacy**
- **Edge Computing**
- **Supreme Court on Cryptocurrency**
- **5G: Is India Prepared?**
- **NavIC in Mobiles**
- **LIBRA: Facebook's Currency**
- **Big Data**
- **Software-Defined Networking**
- **Sandbox for Fintech**

- Internet Trends Report:2019
- ICANN and NASSCOM Collaboration
- Globalization 4.0
- Government Approves Net Neutrality in India

E-Governance Initiatives

- e-Diplomacy
- Online Dispute Resolution
- Bharat Air Fibre: Wireless Internet
- PRAGYATA: Guidelines on Digital Education
- Online Education
- Aarogya Setu App: A Technological Solutionism
- China to Launch Official Digital Currency
- Mainstreaming Healthcare Startups
- Online Dispute Resolution
- Citizen-centric Services of NCRB
- TRIFED's Digitisation Drive
- Government Instant Messaging System
- Steering Committee on Fintech
- GramNet
- Internet Saathi Program
- National Policy on Software Products, 2019
- Data Localisation and Undivided Internet
- UPI 2.0 Launched by NPCI
- Automated Multi-modal Biometric Identification System (AMBIS)
- Frontier Technologies
- Visual Positioning System
- ICEDASH and ATITHI
- BHIM 2.0
- DTH v/s OTT
- Challenges of Digitisation and Way Forward

Artificial Intelligence & Robotics

- In Depth – Artificial Intelligence
- Negative Impacts of Artificial Intelligence
- Responsible AI for Youth
- Deep Fakes
- AI-based Voice Tool to Detect Covid-19
- The Big Picture: Facial Recognition - Uses & Concerns
- Facial Recognition for Elections

- **Artificial Humans -NEONs**
- **Satcom Technology**
- **Robotics and Automation in India**
- **India in the AI Race**
- **Living Robots: Xenobots**
- **Producing New Antibiotics Through Robotics**
- **Ai-Da Robot**

Nuclear Technology

- **Year-End Review 2019: Department of Atomic Energy**
- **The credibility of Nuclear Deterrence**
- **Hiroshima Black Rain**
- **International Thermonuclear Experimental Reactor (ITER) Assembly**
- **Russia Accused of Testing Anti-Satellite Weapon**
- **Kakrapar Atomic Plant Achieves Criticality**
- **Natanz: Underground Nuclear Facility of Iran**
- **Iran Blocking Sites Access: IAEA**
- **Increasing Nuclear Stockpiles**
- **Energy Needs in the Context of Climate Crisis**
- **Nuclear Power Plants in India**
- **Multilateral Export Control Regimes**
- **New START Treaty**
- **Nuclear Doctrine of India**
- **India's NSG bid**
- **Fast Neutrino Oscillations and Supernova**
- **India's Prospects as a Nuclear Power**
- **Akula Class – Attack Submarine**
- **Deterrence or Danger?**

Previous Years Questions

Q. Consider the following statements: (2019)

A digital signature is

1. an electronic record that identifies the certifying authority issuing it
2. used to serve as a proof of identity of an individual to access information or server on Internet
3. an electronic method of signing an electronic document and ensuring that the original content is unchanged

Which of the statements given above is/are correct?

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

Q. With reference to digital payments, consider the following statements: (2018)

1. BHIM app allows the user to transfer money to anyone with a UPI-enabled bank account.
2. While a chip-pin debit card has four factors of authentication, BHIM app has only two factors of authentication.

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
-

Q. The identity platform 'Aadhaar' provides open "Application Programming Interfaces (APIs)". What does it imply? (2018)

1. It can be integrated into any electronic device.
2. Online authentication using iris is possible.

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
-

Q. The terms 'WannaCry, Petya and EternalBlue' sometimes mentioned in the news recently are related to (2018)

- (a) Exoplanets
 - (b) Cryptocurrency
 - (c) Cyberattacks**
 - (d) Mini satellites
-

Q. In which of the following areas can GPS technology be used? (2018)

1. Mobile phone operations
2. Banking operations
3. Controlling the power grids

Select the correct answer using the code given below:

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

Q. Which of the following is/are the aim/aims of “Digital India” Plan of the Government of India? (2018)

1. Formation of India’s own Internet companies like China did.
2. Establish a policy framework to encourage overseas multinational corporations that collect Big Data to build their large data centres within our national geographical boundaries.
3. Connect many of our villages to the Internet and bring Wi-Fi to many of our schools, public places and major tourist centres.

Select the correct answer using the code given below:

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

Q. Regarding 'DigiLocker', sometimes seen in the news, which of the following statements is/are correct? (2016)

1. It is a digital locker system offered by the Government under Digital India Programme.
2. It allows you to access your e-documents irrespective of your physical location.

Select the correct answer using the code given below:

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

Q. 'Project Loon', sometimes seen in the news, is related to (2016)

- (a) waste management technology
- (b) wireless communication technology**
- (c) solar power production technology
- (d) water conservation technology
-

Q. With reference to 'LiFi', recently in the news, which of the following statements is/are correct? (2016)

1. It uses light as the medium for high-speed data transmission.
2. It is a wireless technology and is several times faster than 'WiFi'.

Select the correct answer using the code given below:

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

Q. With reference to ‘Near Field Communication (NFC) Technology’, which of the following statements is/are correct? (2015)

1. It is a contactless communication technology that uses electromagnetic radio fields.
2. NFC is designed for use by devices which can be at a distance of even a metre from each other.
3. NFC can use encryption when sending sensitive information.

Select the correct answer using the code given below:

(a) 1 and 2 only

(b) 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q. Consider the following pairs: (2018)

Terms sometimes seen in news	Context/Topic
1. Belle II experiment	— Artificial Intelligence
2. Blockchain technology	— Digital/Cryptocurrency
3. CRISPR – Cas9	— Particle Physics

Which of the pairs given above is/are correctly matched?

(a) 1 and 3 only

(b) 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q. “3D printing” has applications in which of the following? (2018)

1. Preparation of confectionery items
2. Manufacture of bionic ears
3. Automotive industry

4. Reconstructive surgeries
5. Data processing technologies

Select the correct answer using the code given below.

- (a) 1, 3 and 4 only
 - (b) 2, 3 and 5 only
 - (c) 1 and 4 only
 - (d) 1, 2, 3, 4 and 5**
-

Q. What is 'Greased Lightning-10 (GL-10)', recently in the news? (2016)

- (a) Electric plane tested by NASA**
 - (b) Solar-powered two-seater aircraft designed by Japan
 - (c) Space observatory launched by China
 - (d) Reusable rocket designed by ISRO
-

Q. Which of the following statements is/are correct regarding National Innovation Foundation-India (NIF)? (2015)

1. NIF is an autonomous body of the Department of Science and Technology under the Central Government.
2. NIF is an initiative to strengthen the highly advanced scientific research in India's premier scientific institutions in collaboration with highly advanced foreign scientific institutions.

Select the correct answer using the code given below:

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

Q. Which among the following do/does not belong/belongs to GSM family of wireless technologies? (2010)

(a) EDGE

(b) LTE

(c) DSL

(d) Both EDGE and LTE

Q. WiMAX is related to which one of the following? (2009)

(a) Biotechnology

(b) Space technology

(c) Missile technology

(d) Communication technology

Q. What is the difference between Bluetooth and Wi-Fi devices? (2011)

(a) Bluetooth uses 2.4 GHz radio frequency band whereas Wi-Fi can use 2.4 GHz or 5 GHz frequency band

(b) Bluetooth is used for Wireless Local Area Networks (WLAN) only, whereas Wi-Fi is used for Wireless Wide Area Networks (WWAN) only

(c) When information is transmitted between two devices using Bluetooth technology, the devices have to be in the line of sight of each other, but when Wi-Fi technology is used the devices need not be in the line of sight of each other

(d) The statements (a) and (b) given above are correct in this context

Q. A new optical disc format known as the Blu-ray Disc (BD) is becoming popular. In what way is it different from the traditional DVD? (2011)

1. DVD supports Standard Definition video while BD supports High Definition video.
2. Compared to a DVD the BD format has several times more storage capacity.
3. Thickness of BD is 2.4 mm while that of DVD is 1.2 mm.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q. In India, it is legally mandatory for which of the following to report on cyber security incidents? (2017)

1. Service providers
2. Data centres
3. Body corporate

Select the correct answer using the code given below:

(a) 1 only

(b) 1 and 2 only

(c) 3 only

(d) 1, 2 and 3

Q. The terms 'WannaCry, Petya and EternalBlue' sometimes mentioned in the news recently are related to (2018)

(a) Exoplanets

(b) Cryptocurrency

(c) Cyber attacks

(d) Mini satellites

Q. In which of the following areas can GPS technology be used? (2018)

1. Mobile phone operations
2. Banking operations
3. Controlling the power grids

Select the correct answer using the code given below:

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3