

## IT ACT SECTION 69 A

### SYLLABUS: GS PAPER-II (IT & COMPUTERS) & GS PAPER-III (CHALLENGES TO INTERNAL SECURITY THROUGH COMMUNICATION NETWORKS)

**CONTEXT:** In its latest faceoff with the Ministry of Electronics & Information Technology (MeitY), Twitter has initiated legal action against some of the government missives ordering it to take down certain content posted on the microblogging site.

- As per Twitter the blocking orders given to it are procedurally and substantively deficient under Section 69A.

#### ABOUT INFORMATION TECHNOLOGY ACT

- In India, the Information Technology (IT) Act, 2000, as amended from time to time, governs all activities related to the use of computer resources.
- It covers all 'intermediaries' who play a role in the use of computer resources and electronic records.
- The role of the intermediaries has been spelt out in separate rules framed for the purpose in 2011- The Information Technology (Intermediaries Guidelines) Rules, 2011.

#### ABOUT SECTION 69A

- It confers on the Central and State governments the power to issue directions **“to intercept, monitor or decrypt any information generated, transmitted, received or stored in any computer resource.”**
- The grounds on which these powers may be exercised are:
  - In the interest of the sovereignty or integrity of India, defence of India, the security of the state.
  - Friendly relations with foreign states.
  - Public order, or for preventing incitement to the commission of any cognizable offence relating to these.
  - For investigating any offence.
- Section 69A, for similar reasons and grounds (as stated above), enables the Centre to ask any agency of the government, or any intermediary, to block access to the public of any information generated, transmitted, received, or stored or hosted on any computer resource.
- Any such request for blocking access must be based on reasons given in writing.

#### INTERMEDIARIES AS PER IT ACT 2000

- Intermediary is defined in Section 2(1) (w) of the IT Act 2000.
- The term 'intermediaries' includes providers of telecom service, network service, Internet service and web hosting, besides search engines, online payment and auction sites, online marketplaces and cyber cafes.
- It includes any person who, on behalf of another, “receives, stores or transmits” any electronic record. Social media platforms would fall under this definition.

#### OBLIGATIONS OF INTERMEDIARIES UNDER THE LAW

- Intermediaries are required to preserve and retain specified information in a manner and format prescribed by the Centre for a specified duration.
- Contravention of this provision may attract a prison term that may go up to three years, besides a fine.
- When a direction is given for monitoring, the intermediary and any person in charge of a computer resource should extend technical assistance in the form of giving access or securing access to the resource involved.
- Failure to extend such assistance may entail a prison term of up to seven years, besides a fine.
- Failure to comply with a direction to block access to the public on a government's written request also attracts a prison term of up to seven years, besides a fine.

## INDIA'S LARGEST 100-MW FLOATING SOLAR POWER

**SYLLABUS:** GS PAPER-III (RENEWABLE ENERGY)

**CONTEXT:** India's largest floating solar plant is now fully operational at Ramagundam in Telangana's Peddapalli district.

### KEY HIGHLIGHTS

- The 100-megawatt (MW) floating solar power photovoltaic project was commissioned by the National Thermal Power Corporation, the country's foremost public-sector power generator.
- Following the commissioning of the plant, the total commercial operation of floating solar capacity in the southern region has risen to 217 MW, according to the NTPC.
- At Ramagundam, approximately 32.5 lakh cubic meters per year of water evaporation can be avoided.
- Similarly, coal consumption of 1,65,000 tons can be avoided per year; carbon dioxide emissions of 2,10,000 tons per year can be avoided.

### WHAT ARE FLOATING SOLAR PLANTS?

- Solar plants or solar farms can be either ground-mounted or set up on the surface of waterbodies.
- At a time when large tracts of land are unavailable, floating farms do not require land to be acquired for the installation of photovoltaic panels. They are more efficient as the presence of water underneath helps them keep cool.
- They also reduce water evaporation, thereby saving more water for hydropower generation.

### HOW IS THE PROJECT UNIQUE?

- This project is unique because all the electrical equipment from the inverter, transformer, high-tension panel to supervisory control and data acquisition are also set up on floating ferro-cement platforms.
- The entire floating system is anchored through special high-modulus polyethylene ropes to the dead weights (concrete blocks) placed in the balancing reservoir bed.
- The generated power is evacuated up to the existing switch yard through 33KV underground cables.

### HOW DOES IT HELP THE ENVIRONMENT?

- The solar panels floating on the water surface will reduce the evaporation rate and thereby help water conservation.
- With a minimum land requirement, mostly for associated evacuation arrangements, available land can be put to better use.

## PRELIMS FACTS

### SINGLE-CRYSTALLINE SCANDIUM NITRIDE (ScN)

- ScN is a novel material discovered by the Department of Science & Technology, that can convert **infrared light to renewable energy**.
- It can emit, detect, and modulate infrared light with high efficiency.
- It belongs to the same family of materials as gallium nitride (GaN).
- ScN is compatible with modern complementary **metal oxide semiconductor (CMOS) or Si chip technology** and therefore, could be easily integrated for on-chip optical communication devices.

### THERMOCOUPLES

- Russian Rosatom State Corporation has signed an agreement with Nuclear Power Corporation of India Limited (India's atomic power operator) to supply thermocouples for four power units of Kundalkulam Nuclear Power Plant of Tamil Nadu.
- Thermocouples are **primary temperature measuring transducers designed to measure the temperature of the nuclear reactor coolant**.
- As a critical element of the in-reactor control system, their stable functioning ensures safe operation of nuclear reactor equipment.

### EXOTIC SUB-ATOMIC PARTICLE DISCOVERED

- **Large Hadron Collider beauty (LHCb) experiment** has observed three new particles at European Organization for Nuclear Research.
- **Pentaquark and the first ever pair of tetraquarks are the three new members to the list of new hadrons**.
- They will help the physicists better understand **the** binding of quarks into composite particles.
- Quarks are elementary particles that usually combine in groups of twos or threes to form hadrons such as protons and neutrons that make up atomic nuclei.

### ARYABHAT-1

- Researchers at the Indian Institute of Science have built a prototype of an **analog chipset called ARYABHAT-I (Analog Reconfigurable Technology and Bias-scalable Hardware for AI Tasks)**.
- It will be faster and require less power than the digital chips found in most electronic devices.
- It would be helpful for AI based applications like object or speech recognition.
- Different machine learning architecture can be programmed on it and operate across a wide range of temperatures.