

GOVERNANCE- WELFARE SCHEMES, E-GOVERNANCE, SERVICES ETC.**India Pharma and Medical Device 2020 Conference**

- The Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, in association with Federation of Indian Chambers of Commerce and Industry(FICCI) is organising India Pharma 2020 & India Medical Device 2020 Conference & Exhibition .
- This is the fifth edition, and is being organised for **the first time in the State of Gujarat** (which is also the partner state for this event) at Gandhi Nagar from March 5-7, 2020.

Key Points

- **Theme-** “India Pharma: Meeting Challenges of Affordable and Quality Healthcare and India Medical Device: Promoting Affordable responsible and Quality Medical Device for Universal Health Care”
- **Objectives**
 - To encourage innovations to further reduce the cost of quality healthcare for all and a platform to the global investment community to connect with stakeholders in the **Medical Device Sector in India.**
 - To promote consumer centric manufacturing by involving Medical Electronics, Devices, Health Diagnostics, Hospitals and Surgical Equipment etc.

Indian Pharma Industry

- The Indian pharmaceutical market is the **third largest in terms of volume** and **thirteenth largest in terms of value.**
- India is the **largest supplier of generic medicines globally.**
- From 2018-19, India’s pharmaceutical exports were worth **USD 19.13 billion** with a **growth of 10.72% over USD17.28 billion in pharma exports** the previous year..
- The cost of manufacturing in India is approximately **33% lower than that of the US.**
- India is also the **largest vaccine producer** in the world.
- **Bio-Pharma** is the largest sector contributing to 62% of the total revenue.

Medical Devices Sector in India

- The Medical Devices industry in India is **valued at USD 5.2 billion**, contributing about **4-5% to the USD 96.7 billion Indian healthcare Industry.**
- Medical devices sector in India is very small in size as compared to the rest of the manufacturing industry, though India is one of the top twenty markets for medical devices in the world and is the 4th largest market in Asia after Japan, China, and South Korea.
- India’s medical devices industry is poised for significant growth in the next five years:
 - India is among **the top-20 markets** for medical devices in the world.
 - **Market size** for medical devices expected to reach **USD 50 bn by 2025.**
 - Indian medical devices industry is growing at a **CAGR of 15.8%, vis-à-vis a CAGR of 4.1% for the Global medical devices industry.**
- India currently imports 80-90% of medical devices of the USD15 billion market, the vast majority of which are unregulated for quality and safety. The U.S., Germany, China, Japan, and Singapore constitute the five largest exporters of high technology medical equipment to India.

INTERNATIONAL RELATION**Gender Parity Index**

- **Gender Parity Index** in primary, secondary and tertiary education is the ratio of the number of female students enrolled at primary, secondary and tertiary levels of education to the number of male students in each level.
- In short, GPI at various levels **reflect equitable participation of girls** in the School system.
- GPI is **released by the United Nations Educational, Scientific and Cultural Organization (UNESCO)** as a part of its **Global Education Monitoring Report.**
- A **GPI of 1 indicates parity** between the sexes; a GPI that varies between 0 and 1 typically means a disparity in favour of males; whereas a GPI greater than 1 indicates a disparity in favour of females.
- **India’s GPI for the year 2018-19** at different levels of School Education is as under:
 - Primary Education: 1.03
 - Upper Primary Education: 1.12
 - Secondary Education: 1.04
 - Higher Secondary Education: 1.04

- India's GPI indicates that the **number of girls is more than the number of boys** at all levels of school Education.
- In 2018-19, the Ministry of Human Resource Development launched the '**Samagra Shiksha**' scheme. It is a **Centrally Sponsored Scheme**.
 - It is an overarching programme for the school education sector extending from pre-school to class XII and aims to ensure inclusive and equitable quality education at all levels of school education.
 - One of its objectives is to bridge social and gender gaps in school education.
 - To provide quality education to girls from disadvantaged groups, **Kasturba Gandhi BalikaVidyalayas (KGBVs)** have been sanctioned in Educationally Backward Blocks (EBBs) under SamagraShiksha.
 - KGBVs are residential schools from class VI to XII for girls belonging to disadvantaged groups such as SC, ST, OBC, Minority and Below Poverty Line (BPL).

SCIENCE AND TECHNOLOGY- EVERYDAY SCIENCE, SPACE, NUCLEAR, DEFENCE ETC

Quantum coin or qubit

- Researchers from the **Raman Research Institute (RRI)** (autonomous institution under the Department of Science & Technology) have devised a new test for fairness of **quantum coin or qubit using entanglement theory**.

Key Points

- The test uses **entanglement** to test the fairness of the quantum coin. Their strategy enables **better discrimination between quantum states**. Such an advantage is valuable in quantum sensors
- This is a significant contribution to quantum state discrimination and an essential aspect of quantum information science which is expected to influence quantum sensing.

Quantum Information and Quantum Computing Technology

- The domain of Quantum Information and Quantum Computing Technology is a growing area of research which is expected to influence **Data Processing**, which in turn, plays a central role in our lives in this Information Age.
- For instance, bank transactions, online shopping and so on crucially depend on the efficiency of information transfer.
- Thus the work on quantum state discrimination is expected to be valuable in people's lives in the current era.

Qubit

A quantum bit, or qubit, is the basic unit of information for a quantum computer, analogous to a bit in ordinary machines.

But unlike a bit, which can have the value 0 or 1, a qubit can take on an infinite number of values.

Quantum computer

A quantum computer is any device for computation that makes direct use of distinctively quantum mechanical phenomena, such as superposition and entanglement, to perform operations on data.

Superposition means that each qubit can represent both a '1' and a '0' at the same time

Quantum entanglement occurs when two particles become inextricably linked, and whatever happens to one immediately affects the other, regardless of how far apart they are.

Entanglement is a special type of correlation that exists in the quantum world with no classical counterpart.

BIO-DIVERSITY CONSERVATION

India Smart Utility Week 2020

Recently, the **India-European Union Flagship Call on Integrated Local Energy Systems** was announced at **India Smart Utility Week 2020**.

- Additionally, **Sweden and India** have also announced the **India-Sweden Collaborative Industrial Research & Development Programme** during the event.

India Smart Utility Week 2020

India Smart Grid Forum (ISFG) has been organising its flagship annual event, India Smart Grid Week (ISGW) since 2015. It has been renamed as India Smart Utility Week (ISUW) in 2019.

It is considered as one of the top five international events on Smart Grids and Smart Cities.

ISUW 2020 will be organised as an International Conference and Exhibition on Smart Energy and Water for Smarter Cities.

It will bring together the world's leading smart energy experts and researchers to discuss trends, share best practices and showcase next-generation technologies and products in smart energy and smart cities domains.

India-European Union Flagship Call on Integrated Local Energy Systems

- The partnership between Indian and **European Union** will help to **strengthen cooperation in energy research and innovation**, mainly in **renewable energy** and its integration in the energy system.
- It will also help to find solutions encompassing local integration across various energy vectors and increase the share of renewables in the energy mix and high energy efficiency.
- The programme is in line with both the European Union's and India's involvement in **Mission Innovation (MI)**.

India-Sweden Collaborative Industrial Research & Development Programme

- India-Sweden Collaborative Industrial Research & Development Programme is a **collaborative programme on Smart Grids** at a collective investment of **5 Million US \$** which will help to transform the clean energy sector into a secure, adaptive, sustainable and digitally-enabled ecosystem and provide reliable and quality energy for all.
- It is a **joint Programme**, co-funded by the Indian Department of Science & Technology (DST) and the Swedish Energy Agency.
- It aims to bring together world-class expertise of Sweden and India to **address challenges in the area of Smart Grids**.
 - A smart grid is an electrical grid which includes a variety of operation and energy measures including smart meters, smart appliances, renewable energy resources, and energy-efficient resources.
- The project also aims to **develop technologies that can be commercialized after two years** through cooperation between India and Sweden.

IMPORTANT FACTS FOR PRELIM

MAC BINDING

The authorities have removed ban on social media and restored full internet access in Kashmir on 4th March 2020.

- Among various conditions, the Internet connectivity will be made available **“with mac-binding”**.

Key Points

- Every device has a **Media Access Control (MAC) address**, a hardware identification number that is unique to it. While accessing the Internet, every device is assigned an **Internet Protocol (IP) address**.
 - This **forces a particular device to access the internet from a specific IP address**.
 - If either the MAC (Media Access Control) address or the IP address changes, the device will not be able to access the internet.
 - MAC-binding will also enable authorities to **trace a device on the basis of its online activity**.
- Mobile internet services too will be available **only on postpaid connections**. Prepaid connections will not have access to the internet "unless verified," as per the norms applicable to postpaid connections," the order said.
- Further, internet speed is restricted to second generation 2G networks, while the high-speed 4G networks will remain blocked.

Gaura Devi a Chipko Activist

- The Ministry of Human Resource Development (MHRD) is celebrating Women's Week from 1st March to 8th March 2020.
- International Women's Day is observed on 8th March every year.
- MHRD remembered the women of history who have made significant contributions in the past and planted a sapling in memory of Gaura Devi, a **Chipko Activist**.

The Chipko Movement

- The Chipko movement was a **non-violent agitation in 1973**.
- It is best remembered for the **collective mobilisation of women** for the cause of preserving forests, which also brought about a change in attitude regarding their own status in society.

Gaura Devi

- The movement was led by Gaura Devi, who saved their communal forest from clear felling, beginning a decade of Chipko direct actions by women throughout the Uttarakhand region.
- During the activist phase of Chipko in the 1970s, the courage and vigilance of Uttarakhandi women saved many forests and earned them a hallowed place in the history of the global environmental movement.

Gairsain as the new summer capital

Recently, the Uttarakhand Government named **Gairsain as the new summer capital** of the state.

- A **summer capital** is a city used as an administrative capital during extended periods of particularly hot weather.

Key Points

- Uttarakhand (**earlier known as Uttranchal**) was **carved out as a separate state from Uttar Pradesh in 1998**. Those who spearheaded the movement for statehood to Uttarakhand wanted Gairsain to be made its permanent capital.
- However, **Dehradun has been the temporary capital** of the state since it attained statehood and still houses the chief minister's residence, Raj Bhavan and MLA residences.
 - The state Assembly is located in Dehradun but sessions are held in Gairsain as well.

DAILY ANSWER WRITING PRACTICE

Qns. Pesticide management in India requires broad based reforms in order to ensure sustainable agricultural practices. Discuss. (250 words)

Ans.

Pesticide usage has exponentially increased in India post-Green Revolution and is projected to grow to over 300 billion rupee market by 2024. Though their usage has ensured Food Security by enhancing productivity, there are also issues associated with their usage.

Issues Associated

- Harmful effect on farmers, as direct and prolonged exposure, can cause diseases like Parkinson's; effect on consumers via. Biomagnification; effect on Environment like Eutrophication leading to low BOD in water bodies.
- Regulatory issues with Insecticides Act, 1968 and Rules, 1971 like only prosecution of manufacturers, Licensing Officer can arbitrarily stop sale for 30 days, outsourcing by large brand companies to smaller manufacturers leading to degradation of quality of products.
To tackle such issues there is a need for broad-based reforms:
- Minimal use of chemical-based pesticide as strategized under SDG targets.
- Robust Regulation of sale and manufacture: categorization based on poison levels as per WHO; compulsory usage of protective gears for those directly handling them; Polluter Pays Principle should be made applicable.
- Code of Conduct for Manufacturers by incorporating the need for balance between commercial interest and protection of the environment, farmers, end-use consumers' health.
- Capacity Building among Farmers to avoid under or over usages and also thrust on adopting organic alternatives like Bio-pesticides.
- Adopting Organic Farming like incentive through Paramparagat Krishi Vikas Yojana and Rashtriya Krishi Vikas Yojana.

Conclusion

Such holistic measures will enable sustainable usage in the agrarian sector, along with better regulation on manufacturers. This will help in managing challenges accruing from pesticide usage in India.