

November - 15

## TNPSC BITS

- ❖ An integrated coir cluster is expected to become operational in the Coimbatore district in January 2025.
- ❖ International Ancient Arts Festival and Symposium was held in New Delhi.
- ❖ The Union Bank of India has launched five Nari Shakti branches in Bengaluru, Chennai, Visakhapatnam, and Jaipur to empowering women entrepreneurs by offering credit, skill development, advisory services, networking opportunities.
- ❖ The 12th session of the World Urban Forum (WUF12) was held in Cairo, Capital of Egypt.
- ❖ Freedom fighter Madan Mohan Somtiya, a warrior of Mewar Praja Mandal, from Rajasthan passed away recently.
- ❖ The Legendary sarangi player Pandit Ram Narayan from Maharashtra, a recipient of the prestigious Padma Vibhushan and Sangeet Natak Akademi Award passed away recently.
- ❖ Armenia has become the first country to procure India's domestically developed Pinaka multiple rocket launcher system.

## TAMIL NADU

### Initiatives to support start-up ecosystem



- ❖ Tamil Nadu government has launched initiatives that would help the start-up ecosystem in the State.
- ❖ The first was the Periyar Social Justice Venture Lab.

- ❖ This will provide dedicated advisory, coaching, and acceleration programme for social enterprises, climate action initiatives, and SC/ST start-up founders at both pre-investment and post-investment stages.
- ❖ The another was Thozhil Nayam.
- ❖ It is a design studio that aims to empower direct-to-consumer (D2C) start-ups in the State by having successful listings on e-commerce platforms.
- ❖ Tamil Nadu has recently established the Global Startup Coordination Centre in Dubai.
- ❖ Similar centres will soon be established in Singapore and the United States.
- ❖ The State also sponsored 19 start-up companies from Tamil Nadu to take part in the prestigious GITEX event held in Dubai recently.

### Measures to ensure student safety

**‘மாணவர் மனசு’**

தமிழ்நாடு முழுவதும் பள்ளி மாணவர்களுக்கு,  
**300 மனநல மருத்துவர்கள்**  
**மூலம் ஆலோசனை வழங்கப்பட உள்ளது.**

பள்ளி மாணவர்கள் தங்களுக்கு ஏதேனும்  
பிரச்சனை என்றால், ஒவ்வொரு பள்ளியிலும் உள்ள  
**‘மாணவர் மனசு’** பெட்டிகளின் மூலமும்,  
**14417, 1098** என்ற தொலைபேசி எண்களின்  
மூலமாகவும் அரசுக்கு தெரியப்படுத்தலாம்.

- ❖ Tamil Nadu government has appointed special officers to oversee administration of affected schools, ensuring closer supervision and accountability.
- ❖ A new Student Safeguarding Advisory Committee (SSAC) has been ordered to be established in every school across the State.
- ❖ The SSAC will meet monthly to address concerns or complaints related to student welfare.
- ❖ The School Education Department placing toll-free helpline numbers — 14417 and 1098 — on the back covers of textbooks is one among the various key initiatives.
- ❖ These numbers will help students to anonymously report incidents of sexual harassment or other unsafe activities.

- ❖ Schools are also instructed to install complaint boxes — labelled as Maanavar Manasu — where students can submit their grievances in a confidential manner.

## NATIONAL

### National MSME Cluster Outreach Program

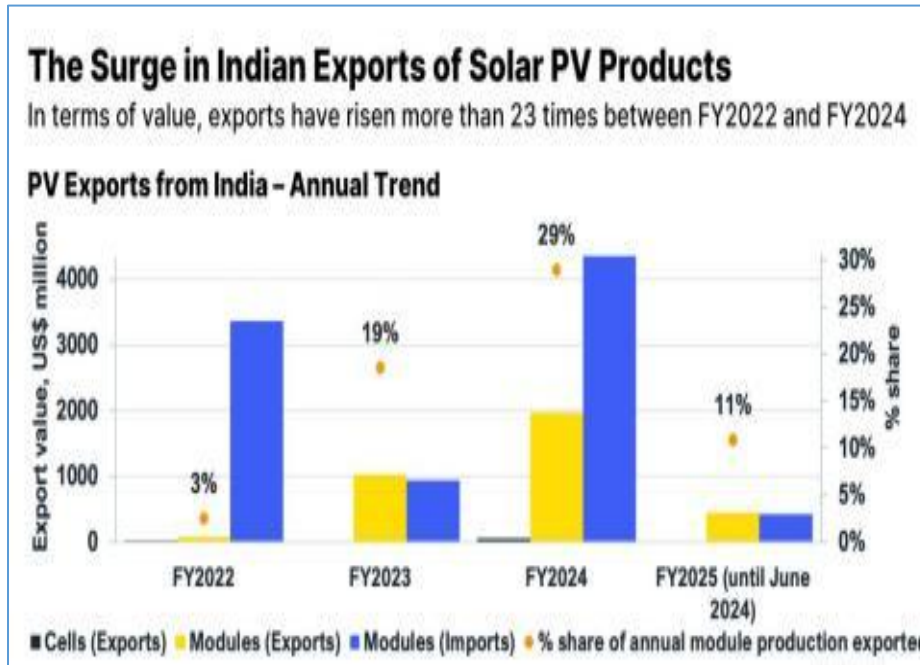
- ❖ The Centre launched a national programme to promote financial access for micro, small and medium enterprises (MSMEs).
- ❖ A cluster is a group of enterprises located in an identifiable and, as far as practicable, contiguous area and producing similar products and services.
- ❖ This will support the sustainability and growth of MSEs by addressing common issues such as technology, skill and quality improvement, market access, access to capital etc.



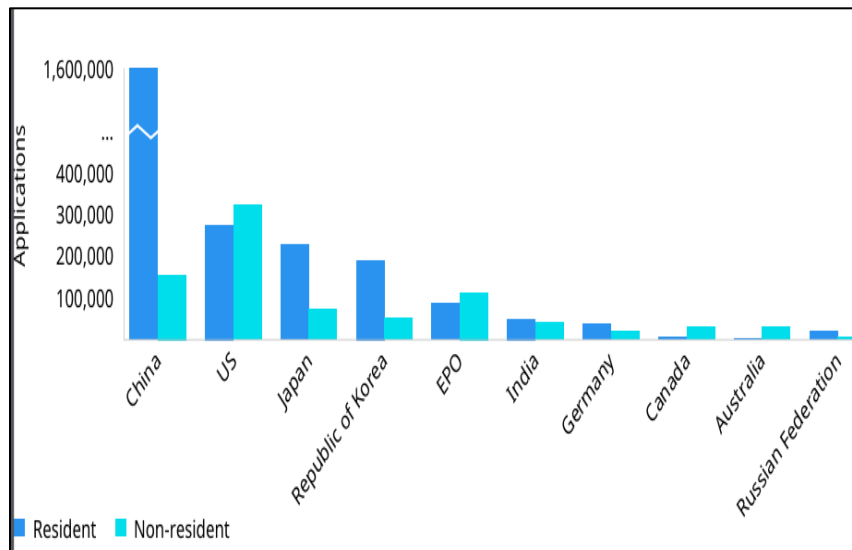
### Renewable Energy Growth and Investment 2024

- ❖ India's total renewable energy capacity increased by 13.5 per cent or 24.2 GW in a year to reach at 203.18 GW in October 2024.
- ❖ It was 178.98 GW in October 2023.
- ❖ Including nuclear energy, the total non-fossil fuel capacity rose to 211.36 GW in 2024, compared to 186.46 GW in 2023.
- ❖ The solar sector saw a remarkable increase of 20.1 GW (27.9 per cent).
- ❖ It was growing from 72.02 GW in October 2023 to 92.12 GW in October 2024.

- ❖ The combined total solar capacity, including projects under implementation and tendered, now stands at 250.57 GW.
- ❖ This is a significant rise from 166.49 GW last year.
- ❖ Installed capacity of Wind energy increases by 7.8 per cent, from 44.29 GW in October 2023 to 47.72 GW in 2024.



### WIPO Patent Filings 2023 - India



- ❖ India’s patents and industrial filings are doubled between 2018 and 2023 while trademarks grew 60%.

- ❖ The country now ranks 6th globally with 64,480 patent filings, up 15.7%.
- ❖ India's IP (intellectual property) office is the second highest globally in the trademarks, with 3.2 million registrations in 2023.
- ❖ The country's Patent-to-GDP ratio surged to 381 from 144 over the past decade.
- ❖ India ranks 4th globally in trademark filings, up by 6.1% in 2023 with nearly 90% from residents
- ❖ India moved up to 10th globally for industrial design filings with a 36.4% increase in 2023.

## INTERNATIONAL

### Russia's Pantsir System



- ❖ India signs deal with Russia to facilitate cooperation for variants of the advanced Pantsir air defence missile-gun system.
- ❖ It aims to explore new avenues for manufacturing, technology transfer, and joint development of the Pantsir variants.
- ❖ The Pantsir air defence system is a highly versatile and mobile platform designed to protect military installations and critical infrastructure from aerial threats.
- ❖ It was including aircraft, drones, and precision-guided munitions.
- ❖ The system combines short- to medium-range surface-to-air missiles with dual 30mm automatic cannons.
- ❖ The Pantsir can detect and engage the targets up to 36 kilometres away and at altitudes of up to 15 kilometres

- ❖ The Pantsir system's adaptability for the different terrains and its capability to counter multiple aerial threats simultaneously.

## SCIENCE AND TECHNOLOGY

### New Cyanobacteria Strain – Chonkus

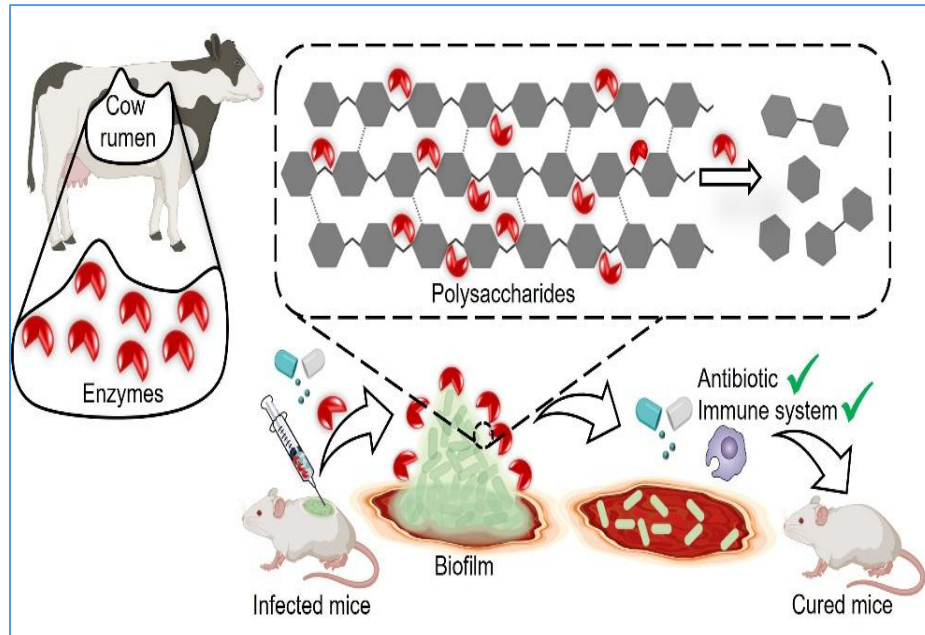
- ❖ Researchers discovered a unique strain of cyanobacteria, known as Chonkus.
- ❖ This strain was discovered in the volcanic ocean vents near Vulcano, Italy.
- ❖ Chonkus exhibits rapid growth in CO<sub>2</sub>-rich waters.
- ❖ It has a natural tendency to sink, which aids in carbon capture.



### Break down 'Biofilm Barriers'

- ❖ A team of scientists at the Indian Institute of Science (IISc) has devised a way to break down 'biofilm barriers' to aid entry of drugs.
- ❖ Most of the disease-causing bacteria secrete the matrix-like layers around themselves called biofilms.
- ❖ These biofilms act as thick barriers, limiting the entry of drugs, and helping the bacteria become resistant to antibiotics.
- ❖ To break down this biofilm barrier, the team has used an enzyme from the cow's digestive tract.
- ❖ The bovine gut harbours microbial enzymes that digest different kinds of complex polysaccharides, such as cellulose and hemicellulose.

- ❖ They found glycoside hydrolases (GH)-B2 successfully broke down biofilms in various lab conditions.



## Bio-derived Foam



- ❖ Researchers at IISc - Bengaluru have developed an innovative and eco-friendly bio-derived foam.
- ❖ The foam is made from bio-based epoxy resins, made from non-edible oils and hardeners derived from tea leaves.

- ❖ This reduces reliance on the fossil fuels and non-recyclable materials while maintaining the foam's excellent compressive strength.

## ENVIRONMENT

### UNFCCC COP 29



- ❖ The 2024 United Nations Climate Change Conference (COP29) kicked off in Baku, Azerbaijan.
- ❖ The primary goal of COP29 is to bring together countries to develop a shared plan for curbing further global warming.
- ❖ It will also focus on scaling up climate finance to help developing nations tackle the adverse effects of climate change.
- ❖ The United Nations Framework Convention on Climate Change (UNFCCC), an international treaty, was signed in 1992.
- ❖ In COP3 at Kyoto (Japan) in 1997, the parties adopted the Kyoto Protocol.
- ❖ At COP21 in Paris, 196 parties adopted the landmark Paris Agreement, a legally binding international treaty.
- ❖ During COP26 in Glasgow 2021 the Glasgow Pact was accepted.
- ❖ At COP28 in Dubai, a Loss and Damage fund was officially launched.

### Fire-Resilient Plant

- ❖ Scientists have discovered a new fire-resilient plant species in India's Northern Western Ghats.
- ❖ They have named the species as 'Dicliptera polymorpha'.



- ❖ The new species experiences a burst of flowering, triggered through grassland fires.
- ❖ This species is notable for its fire-resilient, pyrophytic habit as well as the unique dual-blooming pattern.

***Dicliptera polymorpha* Dharap, Shigwan & Datar**



## REPORTS AND INDICES

### World Intellectual Property Indicators (WIPI) 2024

- ❖ WIPI 2024 published by the World Intellectual Property Organization (WIPO).
- ❖ Globally, over 35 lakh patents were filed, with China leading at 1.64 million.
- ❖ It is followed by the USA, Japan, South Korea, and Germany.
- ❖ India stands sixth, ahead of Germany, with a consistent rise in patent activity.
- ❖ The Global patent filings are increased by 15.7% in 2023, the 4<sup>th</sup> consecutive year of positive growth.
- ❖ Asia accounted for 68.7% of global patent filings, 66.7% of trademark filings, and 69% of industrial design filings in 2023.

- ❖ IPR includes Patents, Copyright, Trademarks, Designs, Geographical Indications and Trade Secrets.

### IP filing activity by office

Patents	2022	2023	Growth rate (%)	Share of world total (%)
<b>Applications worldwide</b>	<b>3,457,800</b>	<b>3,552,100</b>	<b>2.7</b>	<b>100.0</b>
China	1,619,268	1,677,701	3.6	47.2
US	594,340	598,085	0.6	16.8
Japan	289,530	300,133	3.7	8.4
<b>Utility models</b>				
<b>Applications worldwide</b>	<b>3,011,620</b>	<b>3,127,960</b>	<b>3.9</b>	<b>100.0</b>
China	2,950,653	3,063,928	3.8	98.0
Russian Federation	8,521	9,742	14.3	0.3
Germany	9,469	9,704	2.5	0.3

### Global City Brands Rankings 2024

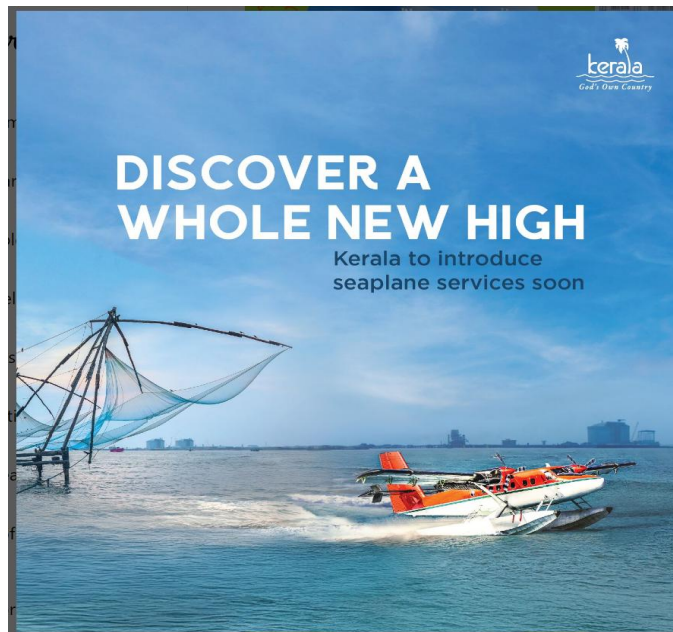
Top 10 Global City Brands 2024									
1		2		3		4		5	
LONDON		NEW YORK		PARIS		TOKYO		DUBAI	
Score	90.9	Score	89.8	Score	87.8	Score	86.8	Score	86.0
6		7		8		9		10	
SINGAPORE		LOS ANGELES		SYDNEY		SAN FRANCISCO		AMSTERDAM	
Score	85.4	Score	85.0	Score	83.7	Score	82.9	Score	82.1

- ❖ London topped the list of the top 100 “city brands” for the second consecutive year.

- ❖ It is followed by New York, Paris, Tokyo, Dubai, Singapore, Los Angeles, Sydney, San Francisco, and Amsterdam.
- ❖ This was based on a survey of 15,000 people across 20 countries.
- ❖ Dubai has emerged as the highest-ranked city in West Asia and Africa.

## STATES

### Seaplane service – Kerala



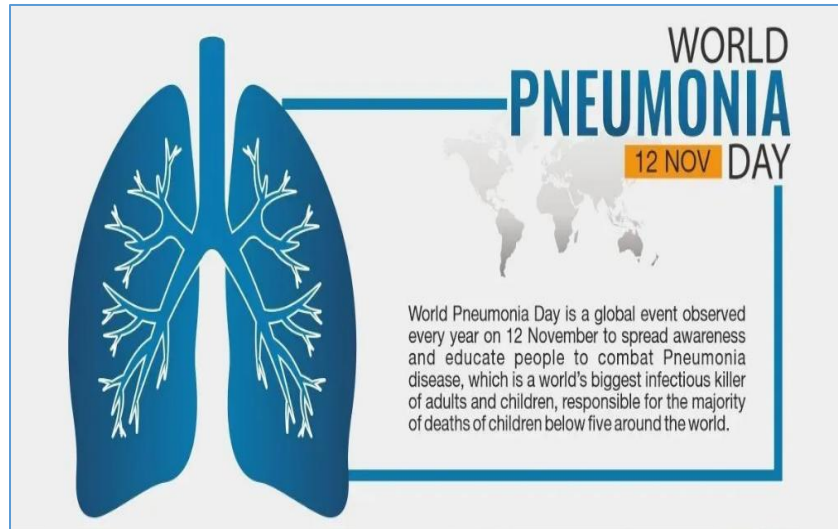
- ❖ Kerala launched Seaplane service to connect various place with airports.
- ❖ Water dromes may also be established around major water bodies in all districts.
- ❖ The seaplane service comes under the Regional Connectivity Scheme (RCS)-UDAN.
- ❖ It aims to enhance connectivity across Kerala's four airports and backwaters, offering subsidised fares.
- ❖ A trial run was conducted between Bolgatty water drome at Kochi Lake and Mattupetty dam at Munnar.

## IMPORTANT DAYS

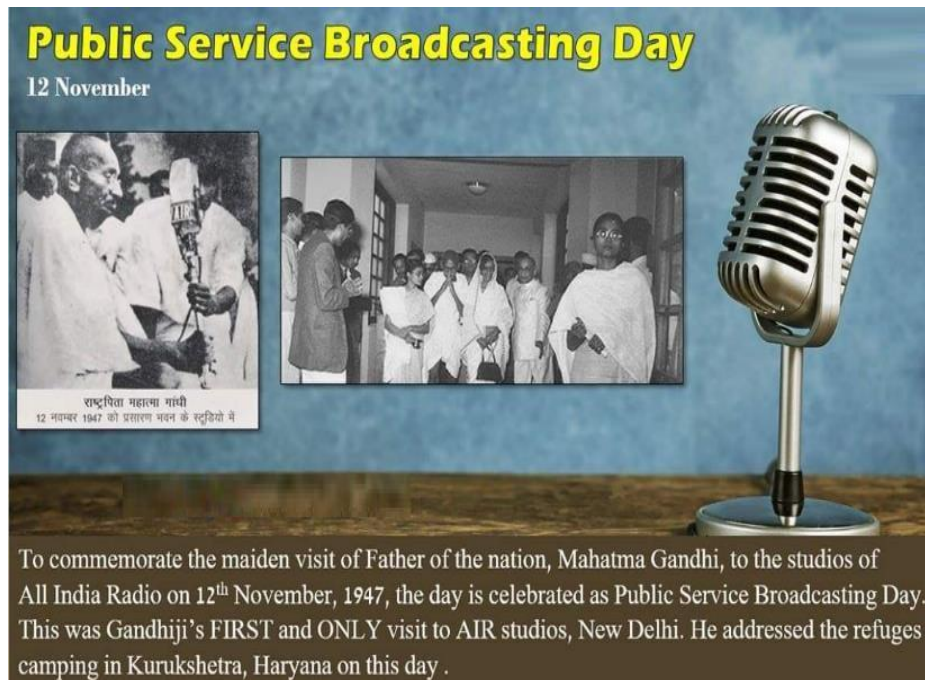
### World Pneumonia Day 2024 - November 12

- ❖ It aims to raise awareness about pneumonia, a life-threatening but preventable and treatable respiratory illness.

- ❖ It was established in 2009 by the Global Coalition against Child Pneumonia.
- ❖ The theme for 2024 is "Every Breath Counts: Stop Pneumonia in Its Track."
- ❖ In 2019, 25 lakhs people lost their lives, and around seven lakhs' children below five years died due to the Pneumonia across the world.



## Public Service Broadcasting Day 2024 – November 12



- ❖ The day highlights the vital role of Akashvani in informing, educating, and promoting cultural diversity across the nation.

- ❖ This day commemorate the only visit of MK Gandhi to the Akashvani station in Delhi in 1947.
- ❖ He addressed the displaced people, who had temporarily settled at Kurukshetra in Haryana after partition.
- ❖ The day was officially declared as Public Service Broadcasting Day in 2001.

## MISCELLANEOUS

### **Knee Rehabilitation Therapy**

- ❖ IIT Ropar have unveiled an innovative solution to make continuous passive motion (CPM) therapy more accessible and affordable.
- ❖ The team has developed a completely mechanical passive motion machine for the knee rehabilitation.
- ❖ Traditional motorized CPM machines are expensive and depend on electricity.

