India's Aviation Industry

For Prelims: **India's Aviation Industry**, Aviation turbine fuel, **RCS-UDAN**, National Civil Aviation Policy 2016, Sustainable Aviation Fuels.

For Mains: Status of the Aviation Industry in India, Measures to Re-energize the Aviation Sector in India.

Source: TH

Why in News?

India's aviation industry has witnessed remarkable growth in recent years. However, this rapid expansion has also highlighted critical issues including **severe shortage of experienced pilots.**

What is the Status of the Aviation Industry in India?

- **About:** India's aviation industry is a collective sector encompassing all aspects of civil aviation within the country.
  - It includes various components, such as **airlines,** airports**, aircraft manufacturing, aviation services, and regulatory authorities.**
- **Status:**
  - India has become the **third-largest domestic aviation market** in the world. India's airport capacity is expected to handle 1 billion trips annually by 2023.
  - According to the data released by the **Department for Promotion of Industry and Internal Trade (DPIIT),** FDI inflow in India's air transport sector (including air freight) reached **USD 3.73 billion** between **April 2000-December 2022.**
- **Associated Challenges:**
  - **Infrastructure Constraints:**
    - **Airport Congestion:** Many major airports in India, including those in **Mumbai and Delhi,** face severe congestion, leading to **delays and operational inefficiencies**.
    - **Limited Regional Connectivity:** While major cities are well-connected, smaller towns and regions often lack adequate airport infrastructure and air connectivity.
  - **High Operating Costs:**
    - High taxes on **aviation turbine fuel (ATF)** and airport charges contribute to increased operating costs.
      - Some Indian states charge up to **30% taxes on jet fuel,** which makes shorter flight routes unprofitable for smaller airlines.
  - **Pilot Shortages:**
    - Airlines in India often struggle to recruit and retain experienced pilots, leading to disruptions and increased labor costs.
      - The surge in aircraft orders, **totaling over 1,100 new planes**, translates into a need for thousands of flight crew members.
      - However, the **average cost of pilot training in India is nearly ₹1 crore.**
        - Airlines often charge additional fees to cadet pilots under various

pretexts, significantly increasing the financial burden.
    - **Security Threats**: Beyond **terrorism and hijacking**, security concerns are increasingly associated with cyber threats **to aviation infrastructure,** which can disrupt operations and compromise passenger data.
    - **Other Challenges:** Critics argue that the management of medical standards by Indian Air Force doctors has led to the **grounding of a significant number of civilian pilots.**
        - Also, there are numerous challenges associated with operating a flying training center, **exacerbated by corruption** among officials who enforce **regulations dating back to pre-Independence times**
- **Related Government Initiatives:**
    - **Goods and Services Tax (GST)** rate reduced to 5% from 18% for domestic **Maintenance, Repair and Overhaul (MRO)** services.
    - **RCS-UDAN** was launched to **promote air connectivity to unserved and underserved airports in Tier-II and Tier-III cities** to stimulate regional growth and provide affordable air travel to the citizens.
    - **National Civil Aviation Policy 2016**

What Steps can be Taken to Re-energize the Aviation Sector in India?

- **Eco-Friendly Initiatives**: There is a need to Incentivize the development and use of **electric or hybrid aircraft for short-haul flights,** reducing emissions and operational costs.
    - Also, there is a need to promote the use of **sustainable aviation fuels (SAFs)** and carbon offset programs to minimize the industry's environmental impact.
        - In June 2021, SpiceJet announced its ambitious target to fly 100 million domestic passengers on **SAF blend by 2030** under the aegis of the **World Economic Forum (WEF).**
- **Digital Twins for Maintenance:**
    - There is a need to **implement digital twin technology** to create virtual replicas of aircraft, enabling predictive maintenance and reducing downtime.
- **Public-Private Partnerships (PPPs):**
    - There is a need to foster collaboration between the **government and private sector to co-invest in airport infrastructure development**, ensuring world-class facilities.
        - The number of PPP airports in India is likely to increase from five in 2014 to 24 in 2024.
- **Reducing the Pilot Gap:**
    - There is a need to **establish subsidized pilot training programs** in collaboration with aviation schools and academies.
        - This can make pilot training more affordable for aspiring aviators.
- **Aviation Tourism Packages:** To make India a hub of Aviation tourism, our aviation industry can **collaborate with the tourism industry to create innovative aviation-based tourism packages,** offering scenic flights, adventure experiences, and aerial photography tours.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Mains

Q. Examine the development of Airports in India through joint ventures under Public–Private Partnership (PPP) model. What are the challenges faced by the authorities in this regard? **(2017)**