



25 June, 2024

Power Markets in India

Context: To meet peak power demand during the hot summer, the government has allowed the trading of surplus electricity from "linkage coal" in the power markets.

➤ Coal Linkages and PPAs

- **Government Coal Linkages:** Allocated to thermal units under long-term PPAs with distribution companies (discoms).
- **Traditional PPAs:** Typically span 25 years, committing generators to supply power at fixed rates to public utilities.
- **Limitations of PPAs:** Inflexible, unable to adapt to dynamic market conditions, and lock in significant generating capacity.

➤ Benefits of Power Markets

- **Flexibility:** Generators can respond to short-term demand fluctuations and sell surplus power at market prices.
- **Renewable Energy:** Allows renewable generators to trade excess power during off-peak hours instead of curtailing production.
- **Price-Based Demand Response:** Involves multiple parties, enhancing reliability and transparency in trading.
- **Optimisation:** Enables generators to optimise output and revenue, aiding utilities in meeting variable power demands efficiently.

➤ How Power Markets Work

- **Bidding Process:** Buyers make bids and sellers make offers; market clearing price is set by the equilibrium of these bids and offers.
- **Market Categories:**
- **Spot Market:** Includes real-time market (RTM) and intraday market for immediate or same-day delivery.
- **Contract Markets:** Includes day-ahead market (DAM) for next-day trades and term-ahead market (TAM) for trades 3 hours to 11 days in advance.

➤ Renewable Energy Certificates (REC)

- **Mechanism:** Allows utilities to meet renewable purchase obligations (RPOs) by buying RECs.
- **Benefits:** Helps states lacking renewable capacity to meet green energy targets; utilities can trade surplus RECs.

➤ Power Exchanges in India

- **Introduction:** Power exchanges commenced in 2008 following the Electricity Act of 2003.
- **Major Exchanges:**
 - Indian Energy Exchange Ltd (IEX): Dominates with over 90% market share.
 - Power Exchange India Limited (PXIL)
 - Hindustan Power Exchange Ltd (HPX)

- **Growth:** IEX traded about 110 billion units in FY 2023-24, representing nearly 7% of India's total power demand.

- **Government Support:** Recent regulation amendments encourage participation in power exchanges.

➤ Future of Power Exchanges

- **Market Coupling:** Aims to match bids from all power exchanges for a uniform market clearing price, improving price discovery and stability.
- **Capacity Markets:** Would pay generators for available capacity, ensuring long-term grid reliability and incentivising investment in generation capacity.
- **Global Comparison:** Few countries have capacity markets; adoption in India could attract investment and increase competition in the power sector.

Underground Coal Gasification

Context: The Ministry of Coal launches India's first pilot project for underground coal gasification in Jharkhand.

- **Definition:** Underground coal gasification (UCG) is an industrial process that converts coal into product gas through in-situ gasification using oxidants and steam.
- **Product Gas:** Predominantly consists of methane, hydrogen, carbon monoxide, and carbon dioxide.
- **Applications:**
 - Combustion for electricity production.
 - Production of synthetic natural gas.
 - Use as chemical feedstock for fuels, fertilizer, explosives, and other products.

- **Advantages:**
 - Applicable to coal resources that are unprofitable or technically complicated to extract by traditional mining methods.
 - Provides an alternative to conventional coal mining for certain resources.
 - **Concerns:** Environmental concerns from campaigners.

➤ Process

- **Mechanism:**
 - Converts coal to gas in the coal seam (in-situ).
 - Injection wells supply oxidants and steam to ignite and fuel the underground combustion process.
 - Production wells extract the product gas to the surface.
- **Conditions:** High-pressure combustion at temperatures of 700–900°C, potentially reaching up to 1,500°C.
- **Products and Contaminants:**
 - Generates CO₂, H₂, CO, and CH₄.

Face to Face Centres



25 June, 2024

- Produces small quantities of SO_x, NO_x, and H₂S.
- Techniques:**
 - Hydro-fracturing, electric-linkage, and reverse combustion to enhance coal permeability.
 - Various designs include simple vertical wells, lateral wells, and controlled retraction and injection point (CRIP) methods.
- Technological Developments:**
 - Ergo Exergy and other entities tested and developed various UCG technologies.
 - Portman Energy's SWIFT technology claims increased syngas production with reduced costs and footprint.

- Applicable for synthesis of liquid fuels, manufacture of chemicals, production of synthetic natural gas, and hydrogen.
- CO₂ by-product can be used for enhanced oil recovery.
- Cost Savings:**
 - Potential savings from eliminating mining, transport, and solid waste.
 - Increased cost-effectiveness with higher coal prices due to emissions reduction policies.

Public Examinations (Prevention of Unfair Means) Act, 2024

Context: The Centre notified the rules to implement The Public Examinations (Prevention of Unfair Means) Act, 2024, which came into force on June 21 after being passed by Parliament in February.

Notification of Rules

- Authority:** Ministry of Personnel, Public Grievances and Pensions.
- Purpose:** Framework of actions to prevent unfair means in public examinations.
- Roles:** Appoint Centre Coordinators, venue in-charges, and Regional Officers.

Government Pressure and Investigations

- Opposition and Protests:** Pressure due to postponed UGC-NET, CSIR UGC NET, and NEET PG exams.
- Investigation:** CBI investigating NEET UG due to evidence of paper leak found in Bihar.

Rules for Computer-Based Tests (CBT)

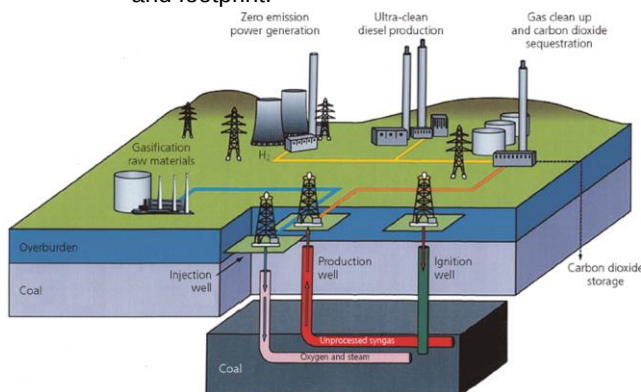
- Parameters:** Cover registration, center allocation, admit cards, question paper distribution, evaluation, and recommendations.
- Distribution:** Involves downloading question papers from main to local server and transferring to candidate computers.
- Norms and Guidelines:** Prepared by National Recruitment Agency, covering physical and digital infrastructure, SOPs, and post-exam activities.

Centre Coordinator

- Appointment:** Serving or retired employees of government bodies.
- Role:** Represent examination authority, coordinate service providers, ensure compliance with norms and guidelines.

Definition of Public Examination

- Authorities Covered:**
- UPSC, SSC, RRBs, IBPS, and NTA.
- Central government ministries and departments for staff recruitment.



Criteria for Location

- Factors:**
 - Surface conditions, hydrogeology, lithology, coal quantity, and quality.
- Specific Criteria:**
 - Depth of 100–600 meters (or up to 1,400 meters according to some experts).
 - Thickness more than 5 meters (or 3 meters according to some experts).
 - Ash content less than 60%.
 - Minimal discontinuities.
 - Isolation from valued aquifers.

Economics

- Economic Viability:**
 - Access to coal resources not recoverable by other technologies.
 - Potential increase in economically recoverable reserves by up to 600 billion tonnes globally, and a 300% increase in the US.
 - Cost Efficiency: Lower capital and operating costs compared to traditional mining.
- Usage of Product Gas:**
 - Can fire combined cycle gas turbine (CCGT) power plants, achieving high efficiencies and reduced GHG emissions.

Face to Face Centres





25 June, 2024

- **Expansion:** Central government can add new authorities as needed.

➤ Definition of Unfair Means

- **Actions:**
 - Leakage of question papers/answer keys.
 - Unauthorized possession or tampering with answer sheets.
 - Unauthorized assistance or solutions during exams.
 - Fake websites, admit cards, or exam conduct.
 - **Reporting:** Venue in-charge reports incidents, Centre Coordinator and Regional Officer take

necessary actions, including filing FIRs if required.

➤ Rationale for the Law

- **Controversy:** Paper leaks in recruitment exams, impacting millions of applicants.
- **Objective:** Ensure transparency, fairness, and credibility in public examinations.
- **Penalties:** Fines up to Rs 1 crore and up to 10 years in prison.
- **Model Draft:** Intended to serve as a model for states to adopt.

NEWS IN BETWEEN THE LINES

International Sugar Organisation



India will host the 64th International Sugar Organisation (ISO) Council Meeting in New Delhi today (June 25, 2024) in which the delegates from more than 30 countries and representatives of many international organisations will participate in the three-day meeting to deliberate on critical issues in the sugar and biofuel sectors.

About International Sugar Organisation:

- The International Sugar Organization (ISO) is an **intergovernmental organization** that works to improve the **global sugar market**.
- It was **established in 1968** and is based in **London**.
- Its **87 member states** represent **87%** of global sugar production, **64%** of consumption, **92%** of exports and **34%** of imports.
- It administers the **1992 International Sugar Agreement**, gathers and publishes world sugar market statistics, researches new sugar uses and provides a forum for intergovernmental discussions.
- It also **promotes sugar trade and consumption, conducts special studies** and hosts seminars, workshops, and conferences.
- In **November 2023**, the International Sugar Organization announced that **India would chair the organization in 2024**.
- **Shri Sanjeev Chopra**, the Secretary of the Department of Food and Public Distribution in the Ministry of Consumer Affairs, Food & Public Distribution, assumed the position of **ISO Council Chair on January 1, 2024**.

Life Insurance Corporation of India



Recently, Life Insurance Corporation of India (LIC) has clarified that it is not associated with entities offering to acquire policies as an alternative to surrendering and urged policyholders to consult its officials before responding to such offers.

About the Life Insurance Corporation of India:

- Life Insurance Corporation of India (LIC) is a **state-owned insurance group** and investment corporation owned by the Government of India.
- It was established in **1956** by an Act of Parliament, the Life Insurance **Corporation Act, 1956**.
- It operates under the regulatory framework of the Insurance Regulatory and Development Authority of India (IRDAI).
- It **offers a wide range of life insurance products** such as term insurance, endowment plans, money back plans, pension plans, and unit-linked insurance plans (ULIPs).
- It is the **largest life insurance company** in India in terms of market share and serves millions of policyholders across the country.
- Its headquarter is located in **Mumbai, Maharashtra**.

Telecom Regulatory Authority of India



Recently, the Telecom Regulatory Authority of India (TRAI) mandated Access Providers to enhance their mobile apps and web portals for easier registration of Unsolicited Commercial Communication (UCC) complaints and preference settings.

About the Telecom Regulatory Authority of India:

- The Telecom Regulatory Authority of India (TRAI) is an **autonomous regulatory body** established under the Telecom Regulatory Authority of India Act, 1997.
- It **regulates telecom services, tariffs** and ensures fair competition in the telecom sector.
- It consists of a **Chairperson**, up to **two full-time members** and up to **two part-time members**.
- They are **appointed by the Central Government** and serve a term of up to **three years** or **until they turn 65**, whichever comes first.

Face to Face Centres



25 June, 2024

	- It has the power to issue directives, recommendations and regulations to telecom service providers. - It safeguards consumer interests and addresses grievances related to telecom services. - It advises the government on policy matters related to the telecom sector. - This includes regulations on net neutrality, spectrum auctions and measures to control Unsolicited Commercial Communication (UCC). - The TRAI Act was amended in 2000 to establish the Telecom Disputes Settlement and Appellate Tribunal (TDSAT).
Indira Point 	About Indira Point: - Indira Point, also known as Pygmalion Point is the southernmost point of India's territory. - It is located at 6°45'10"N and 93°49'36"E, on Great Nicobar Island, in the Nicobar Islands, in the eastern Indian Ocean. - It was officially renamed on October 10, 1985 in honour of former Indian Prime Minister Indira Gandhi visited the local light house on 19 February 1984. - Indira Point was severely affected by the 2004 Indian Ocean earthquake and Tsunami, which led to a significant shift in its coastline and submerged a substantial portion of the landmass. - The Indira Point Lighthouse is an important landmark on the international ship lane between Colombo and Singapore. - According to the 2011 census of India, Indira Point has only four households remaining, with an effective literacy rate of 85.19%.
Place in News Israel	Recently, Israeli Prime Minister Benjamin Netanyahu has announced that his country is "committed" to the ceasefire deal proposed by US President Joe Biden in exchange for the release of hostages. Israel (Capital: Jerusalem) Location: Israel is a country situated in the Southern Levant region of Western Asia, along the eastern shore of the Mediterranean Sea. Boundaries: Israel shares its borders with the West Bank and Jordan (East), the Mediterranean Sea (West), Lebanon and Syria (North) and Egypt, the Gaza Strip and the Red Sea (South). Geographic Features: - The highest point in Israel is Mount Meron. - Israel's major mountain ranges include Mount Carmel, the Galilee Mountains, Judean Mountains and the Negev Highlands. - Israel has several major rivers, including the Jordan River, which forms part of its northern border with Jordan and the Dead Sea. - Israel has significant reserves of minerals such as potash, bromine, phosphate rock, and magnesium. 

POINTS TO PONDER

- Which ministry recently launched the first National Additive Manufacturing Symposium (NAMS) 2024? – **Ministry of Electronics and Information Technology**
- Which state/UT recently organized the 'Hemis festival 2024'? – **Ladakh**
- Fire Dragon 480, recently seen in news, is a tactical ballistic missile of which country? – **China**
- Which organization recently released the "State of Global Air (SoGA) 2024"? – **Health Effects Institute**
- What is 'Garnet', recently mentioned in news? – **A deep red mineral**

Face to Face Centres

DELHI MUKHERJEE NAGAR: 9205274741, 42 | **LAXMI NAGAR** : 9205212500, 9205962002 | **RAJENDRA NAGAR**: 9205274743 | **UTTAR PRADESH** PRAYAGRAJ: 0532-2260189, 8853467068 | **LUCKNOW** (ALIGANJ): 0522-4025825, 9506256789 | **LUCKNOW** (GOMTI NAGAR): 7234000501, 7234000502 | **GREATER NOIDA**: 9205336037, 38 | **KANPUR**: 7887003962, 7897003962 | **GORAKHPUR** : 7080847474, 9161947474 | **ODISHA** BHUBANESWAR: 9818244644/7656949029



dhyeyaias.com