



WEEKLY CURRENT AFFAIRS

OCTOBER, 2023

Week-3

15-21 Oct., 2023

★★ Useful for ★★

**CSE, ESE, PSUs, State Services Exams,
SSC and Banking Exams**

15th OCTOBER, 2023

Lithium, Niobium and Rare Earth Elements (REEs)

- **Context:** The Union Cabinet has approved a royalty rate for lithium, niobium, and for Rare Earth Elements (REEs).

Key Highlights:

- Recently, the Mines and Minerals (Development and Regulation) Amendment act, 2023 was passed by the Parliament.
- The amendment delisted six minerals including Lithium and Niobium, from the list of atomic minerals, thereby allowing grant of concessions for these minerals to the private sector through auction.
- Further, the amendment provided that mining lease and composite license of 24 critical and strategic minerals including Lithium, Niobium and REEs (not containing Uranium and Thorium) shall be auctioned by the Central Government.
- The Second Schedule of the MMDR Act provides royalty rates for various minerals.
- The act currently specifies a royalty rate of 12% of the average sale price (ASP) for minerals that are not specifically listed in that Schedule. This rate is much higher than global benchmarks.
- Hence, that's why new royalty rates have been specified by amending the Second Schedule of the Mines and Minerals (Development and Regulation) Act, 1957.
- These amendments effectively aligns India's royalty rates with global benchmarks and paves the way for commercial exploitation of these minerals through auctions, which can be conducted by the Centre or states.
- Lithium is an alkali metal. It is one of the key components in rechargeable batteries that find usage in mobiles, laptops, electric vehicles, and medical devices like pacemakers. It is also used in energy storage solutions.
- Rare earth elements refers to a group of 17-odd minerals that cover ones like scandium, yttrium, and cerium, among others. Most of these are used as catalysts and magnets, with the most common usage being in alloys, glass, electronics, petroleum extraction, electric motors of hybrid and EVs and wind turbines, among others.
- Niobium is a silvery metal with a layer of oxide on its surface which makes it resistant to corrosion.
- It is used in alloys, including stainless steel, to improve their strength, particularly at low temperatures.
- Alloys containing niobium are used in jet engines, beams and girders for buildings, and oil and gas pipelines. Given its superconducting properties, it is also used in magnets for particle accelerators and MRI scanners.
- The main source of Niobium is the mineral columbite, which is found in countries such as Canada, Brazil, Australia, and Nigeria.

Global Amphibian Assessment report

- **Context:** The Second Global Amphibian Assessment report has been released.

Key Highlights:

- Global Amphibian Assessment is a comprehensive analysis of 8,011 species worldwide.
- The analysis was led by Re:wild, Synchronicity Earth and the IUCN SSC Amphibian Specialist Group.
- Around 41% of amphibian species are on the brink of extinction.
- This means around two out of every five amphibian species are at risk of extinction.
- Major threats to amphibians include climate change, habitat loss, disease, fire, invasive species and over-exploitation.
- Out of 426 amphibian species assessed in India, 139 are threatened (Critically Endangered, Endangered, and Vulnerable).

- The Western Ghats, a biodiversity hotspot spread across Kerala, Karnataka and Tamil Nadu is rich in amphibian diversity.
- However, around 64 species of amphibians found in the Western Ghats are on the list of endangered species.
- The *Micrixalus* genus (dancing frogs) in the Western Ghats is the most threatened frog genus in India. Dancing Frogs are endemic to the Western Ghats of India. They have a curious habit of waving their hind legs to defend their territory from intruding males during the breeding season.
- *Nyctibatrachidae* (night frogs) are also highly threatened in southern states.
- Wildlife Trust of India has launched Amphibian Recovery Project in the Munnar Landscape of Kerala.
- The project is actively working to recover the population of threatened amphibians by addressing the challenges that cause the risk of extinction.
- **Currently, the project is focussing on 5 species:** Deccan Night Frog (Endangered), Resplendent Resplendent shrub frog (Endangered), Kadalar Swamp Frog (Endangered), Anaimalai Flying Frog (Vulnerable), and Meowing Night Frog (Near Threatened).

Watermeal: Earth's tiniest flowering plant

- **Context:** Scientists from Thailand are conducting groundbreaking research into the potential of Watermeal plants as a source of nutrition and oxygen for astronauts.

Key Highlights:

- Watermeal is the world's smallest flowering plant. It is known for its tiny size and floating habit on water bodies. It lacks roots, stems, or leaves.
- Watermeal thrives in quiet, nutrient-rich freshwater environments like ponds, lakes and marshes.
- It is also a producer of oxygen through photosynthesis and a rich source of protein. In Thailand, it has been part of the local diet for generations.

16th OCTOBER, 2023

Caste Census in India

- **Context:** Recently, the demand was made for a nationwide caste census after publication of a caste survey in Bihar.

Key Highlights:

- The demand was made after the recent publication of a caste survey in Bihar found that 63% of Bihar's 13 crore population belong to castes listed under the Extremely Backward Classes (EBC) and Other Backward Classes (OBC) categories.
- However recently, the Prime Minister has criticised and rejected the demand for a nationwide caste census.
- The State government in Bihar in January 2023 launched a two-phase caste survey in Bihar, stating that detailed information on socio-economic conditions would help create better government policies for disadvantaged groups.
- Other Backward Classes (OBCs) and Extremely Backward Classes (EBCs) constitute more than 63% of the population of Bihar.
- The so-called "forward" castes or "General" category is only 15.5% of the population.
- The data also shows that there are about 20% (2.6 crore) Scheduled Castes (SCs), and just 1.6% (22 lakh) Scheduled Tribes (STs).
- The intersection between class and caste-based deprivation in Indian society is evident in a gamut of socio-economic statistics.
- The average Monthly Per capita consumption expenditures (MPCE) of Scheduled Tribes (ST), Scheduled Castes (SC) and OBC households in rural areas were, respectively 65%, 73% and 84% of the MPCE of the 'Others', i.e. the general category, as per the National Sample Survey (NSS), 2011-12.
- In urban areas the average MPCE of ST, SC and OBC households were 68%, 63% and 70% of the general category in 2011-12.

Global Hunger Index 2023

- **Context:** India ranks 111 out of a total of 125 countries in the Global Hunger Index (GHI) 2023.

Key Highlights:

- GHI is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels. GHI scores are based on the values of four component indicators:
 1. **Undernourishment:** the share of the population with insufficient caloric intake.
 2. **Child stunting:** the share of children under age five who have low height for their age, reflecting chronic undernutrition.
 3. **Child wasting:** the share of children under age five who have low weight for their height, reflecting acute undernutrition.
 4. **Child mortality:** the share of children who die before their fifth birthday, partly reflecting the fatal mix of inadequate nutrition and unhealthy environments.
- Based on the values of the four indicators, a GHI score is calculated on a 100-point scale reflecting the severity of hunger, where 0 is the best possible score (no hunger) and 100 is the worst.
- Global hunger remains too high, and progress on reducing hunger has largely stalled.
- The share of people globally who are undernourished rose from 7.5 percent in 2017 to 9.2 percent in 2022.
- South Asia and Africa South of the Sahara each have a GHI score of 27.0, indicating serious hunger.
- The region with the lowest 2023 GHI score is Europe and Central Asia, whose score of 6.0 is considered low.
- Six countries are designated as alarming based on their 2023 GHI scores: Central African Republic, Democratic Republic of Congo, Lesotho, Madagascar, Niger, and Yemen.
- The countries at the highest level of concern for 2023 are Afghanistan, Haiti, Nigeria, Somalia, South

Sudan, Sudan, and Yemen, as well as Burkina Faso and Mali.

- Rates of undernourishment, child stunting, child wasting, and child mortality are all projected to fall short of the targets for 2030 set by the Sustainable Development Goals (SDGs).
- India's neighbouring countries Pakistan (102th), Bangladesh (81st), Nepal (69th) and Sri Lanka (60th) have fared better than it in the index.
- India has the highest child wasting rate in the world, at 18.7 percent, reflecting acute undernutrition.
- The rate of undernourishment in India stood at 16.6 percent and under-five mortality at 3.1 percent.
- The prevalence of anaemia in women aged between 15 and 24 years stood at 58.1 percent.

World Health Summit 2023

- **Context:** India's Union Minister for Health and Family Welfare attended the World Health Summit 2023.

Key Highlights:

- Union Minister highlighted the steps taken by India to reduce the prevalence and impact of Non-communicable diseases (NCDs).
 1. National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) was launched under the National Health Mission (NHM) in 2010. It aims to strengthen infrastructure, human resource development, health promotion, early diagnosis, management and referral.
 2. 75/25 initiative aimed at screening and providing standard of care for 75 million individuals with hypertension and diabetes by 2025.
 3. The Outcome Budget document of the Union Budget for 2023-2024 has included hypertension and diabetes treatment as output indicators for the first time.
 4. Population-Based Screening (PBS) organized under the umbrella of Comprehensive Primary Health Care (CPHC) across Ayushman Bharat-Health and Wellness Centres (AB-HWC).

5. The individuals in the age groups of 30 years and above are targeted for risk assessment and screening of common NCDs (hypertension, diabetes, oral cancer, breast cancer and cervical cancer).
6. National NCD portal is being used for prevention, control, screening and management of common NCDs.
7. Primary-level information is captured through this portal at public health facilities for reporting and monitoring individual-wise screening and compliance of treatment for NCDs.

About World Health Summit:

- World Health Summit is the unique international strategic forum for global health
- It was founded in 2009 on the occasion of the 300th anniversary of Berlin's Charité Hospital.
- It is held under the patronage of the German Chancellor, President of the Republic of France, President of the European Commission and Director-General of the World Health Organization(WHO).
- To set the agenda for a healthier future by inspiring innovative solutions for better health and wellbeing for all.
- **Theme for 2023:** "A Defining Year for Global Health Action."

17th OCTOBER, 2023

P20 Summit

- **Context:** The Prime Minister inaugurated the 9th G20 Parliamentary Speakers' Summit(P20) in New Delhi.

Key Highlights:

- Parliament 20(P20) Engagement Group was started during Canada's G20 Presidency in 2010.
- The group is led by Speakers from Parliaments of G20 countries.
- To bring a parliamentary dimension to global governance, raise awareness, build political support

for international commitments and ensure that these are effectively translated into national realities.

- Hosted by Parliament of India in cooperation with Inter-Parliamentary Union (IPU).
- Theme: 'Parliaments for One Earth, One Family, One Future'.
- **The summit hosted discussions on four subjects:**
 1. Accelerating SDGs
 2. Sustainable Energy Transition
 3. Women led Development
 4. Transformation in Peoples' Lives through Public Digital Platforms.

Metal-insulator transition (MIT)

- **Context:** Scientists have found the reason behind how certain materials can change from being good conductors of electricity (metallic) to insulators (materials in which electric current does not flow freely).

Key Highlights:

- Scientists have found the reason behind how certain materials can change from being good conductors of electricity (metallic) to insulators.
- They used one of the metal-insulator transition(MIT) materials called chromium nitride (CrN) to demonstrate this.
- They have found that the magnetic stress caused by the arrangement of atoms in a material can be the reason for this transition of materials from metallic to insulators.
- These findings can lead to a better understanding of how different factors like magnetism, electrical charge, and atomic arrangement work together in materials.
- It could also help us discover new materials that can switch between being conductors and insulators.

About Metal-insulator transition (MIT):

- Normally, materials are either good at conducting electricity (metallic) or they block it (insulators).

- But some special materials can switch between these two states when we change things like temperature or pressure. This switching is known as a metal-insulator transition (MIT).
- This phenomenon was first discovered in magnetite in 1939.

Amendment to Aircraft Rules, 1937

- **Context:** The Government of India has made several amendments to the Aircraft Rules, 1937. These amendments aim to make doing business in aviation easier and ensure safety and security.

Key Highlights:

- The validity of Airline Transport Pilot Licenses (ATPL) and Commercial Pilot Licenses (CPL) has been increased from five years to ten years. This means pilots don't have to renew their licenses as often.
- The rules have been updated to tackle the concerns regarding the display of lights near aerodromes (part of an airport that is used by aircraft)
- The term 'light' now includes lantern lights, wish kites and laser lights.
- Government's jurisdiction over those displaying such lights has been increased from a 5-kilometer radius to 5 nautical miles around an aerodrome.
- Government also has the power to take action against people who use lights that could disrupt aircraft safety or harm the crew.
- For instance, if such lights are left unattended for 24 hours, the government can enter the location and turn them off. Legal action under the Indian Penal Code (IPC) can also be taken in such cases.
- The requirement to validate foreign pilot licenses has been removed.
- Flexible Rules for Air Traffic Controllers (ATC) license holders have more flexibility now when it comes to hours of work.
- They now need to complete a minimum of ten hours of simulated exercises including emergency scenarios. A skill assessment for their rating must be done within ten days of starting these exercises.

18th OCTOBER, 2023

Same-sex marriages judgment

- **Context:** A five-judge Constitution Bench of the Supreme Court has refused to grant legal status to same-sex marriages by 3-2 majority.

Key Highlights:

- The petitioners argued that there exists a fundamental right to marry a person of one's own choice under the Constitution and that the court must address the denial of that right:
 - **Minority View:** The marriage is not inherently a fundamental right as it has been shaped by state regulation.
 - **Majority View:** It agreed with the minority view. It said that personal importance doesn't automatically make something a fundamental right.
- **Interpretation of Special Marriage Act:** SMA was enacted in 1954 to enable marriage between inter-faith or inter-caste couples without them giving up their religious identity or resorting to conversion.
- The petitioners had asked the SC to interpret the word marriage as between "spouses" instead of "man and woman".
- The petitioners had asked for striking down provisions of the SMA that are gender-restrictive:
 - **Minority View:** It opposes expansive interpretation of the Special Marriage Act, fearing it could infringe on legislative powers.
 - **Majority View:** It stated that the court could not interpret the SMA to include same-sex couples since the objective of the legislation is not to include same-sex couples within the realm of marriage.
- The petitioners had argued that the guidelines of the Central Adoption Resource Authority (CARA), which does not allow unmarried couples to jointly adopt children is discriminatory against queer couples who cannot legally marry.
- CARA guidelines allow only a couple who have been in at least two years of a stable marital relationship to be eligible to adopt. Individually, queer persons can adopt as single people.

- However, a single male is not eligible to adopt a girl child even though a single female is eligible to adopt a child of any gender.
 - **Minority View:** It strikes down certain CARRA regulations emphasizing that preventing unmarried couples, including queer ones, from adopting isn't in the child's best interests.
 - **Majority View:** It largely agrees with the discrimination against queer couples but suggests only the legislature can change the adoption criteria.
- The judges had discussed recognising civil unions for queer couples as a halfway approach during the hearing.
- In US, before full marriage rights were recognised for same-sex couples by the US Supreme Court, several states had allowed civil unions.
 - **Minority View:** It held that the right to form civil unions falls within the fundamental right to freedom of speech and expression.
- It also noted the Solicitor General's statement that a committee chaired by the Cabinet Secretary would be constituted to set out the rights which would be available to queer couples in civil unions.
 - **Majority View:** It disagreed with the view that the court can prescribe a "choice" of civil unions to queer couples. It recommended that the state can facilitate this option if the community desires it.
- Tuna Tekra all-weather deep draft terminal: Its foundation was laid down at Deendayal Port Authority in Gujarat.
- The terminal is likely to emerge as an international trade hub, will handle next-gen vessels exceeding 18,000 twenty-foot equivalent units (TEUs) and will act as a gateway for Indian trade via the India-Middle East-Europe Economic Corridor .
- The summit provides an excellent platform for attracting investment in the country's maritime sector.
- The first Maritime India summit was held in Mumbai while the Second Maritime Summit was held virtually in 2021.
- The summit of 2023 will witness the participation of Ministers from across the globe representing countries from Europe, Africa, South America, and Asia (including central Asia, Middle East and BIMSTEC region).
- The three-day summit will discuss and deliberate key issues of the maritime sector including ports of the future; decarbonisation; coastal shipping and inland water transportation; shipbuilding; repair and recycling; finance, insurance & arbitration; maritime clusters; innovation & technology; maritime safety and security; and maritime tourism, among others.

19th OCTOBER, 2023

Global Maritime India Summit 2023

- **Context:** The Prime Minister inaugurated the third edition of Global Maritime India Summit 2023.

Key Highlights:

- The Prime Minister also unveiled 'Amrit Kaal Vision 2047', a blueprint for the Indian maritime blue economy.
- The blueprint outlines strategic initiatives aimed at enhancing port facilities, promoting sustainable practices, and facilitating international collaboration.
- The foundation stone for projects worth more than Rs 23,000 crores that are aligned with the 'Amrit Kaal Vision 2047' was laid.

Coal Statistics 2022-23

- **Context:** The Ministry of Coal released the statistical publication of "Provisional Coal Statistics for 2022-23".

Key Highlights:

- The Provisional Coal Statistics 2022-23 provides comprehensive and detailed information on various aspects, including coal reserves, production, coal production & productivity, pit-head closing stock, performance of captive blocks & commercial blocks, dispatches, import, export, coal washeries, Royalty, DMF, NMET etc.

- It offers valuable insights into the dynamic landscape of the Coal and Lignite sector, enabling stakeholders to take informed decisions based on reliable data
- Total production of raw coal in India in the year 2022-23, was 893.190 MT whereas it was 778.210 MT in 2021-22, showing a growth of 14.77% over the previous year.
- The contribution of the public sector is higher as compared to private sectors in the production of raw coal (both Coking and Non-Coking coal).
- Odisha registered the highest coal production (24.52%), followed by Chhattisgarh (20.70%), Jharkhand (17.52%) and Madhya Pradesh (16.35%).
- 96.10% of coal production in India was from Open Cast mines (858.342 MT) and the rest 3.90% was from Underground mines (34.848 MT).
- Import of coal in the year 2022-23, was 237.668 MT compared to 208.627 MT in 2021- 22, thus showcasing an increase of 13.92% over 2021-22.
- It was mainly imported from Indonesia, Australia, Russia, South Africa, USA, Singapore and Mozambique.
- Export of coal in the year 2022-23, was 1.163 MT compared to 1.316 MT in 2021-22. Coal was mainly exported to Nepal and Bangladesh.
- The next WorldSkills Competition is to be held in Paris.
- These competitions provide both a benchmark for high performance and a way to assess vocational excellence among the workforce.

About WorldSkills Competition:

- It is the most extensive skill competition globally, taking place biennially.
- It is conducted by WorldSkills International, which has 86 member countries.
- WorldSkills is an international charity that organises world and national championships for vocational skills and is held every two years in different parts of the world, and also hosts conferences about vocational skills.
- WorldSkills India is an initiative of the National Skill Development Corporation (NSDC) under the Ministry of Skill Development and Entrepreneurship.

International Solar Alliance (ISA)

- **Context:** The Sixth Assembly of the International Solar Alliance is being held in New Delhi.

Key Highlights:

- The key reports released during the sixth assembly of the International Solar Alliance are:
 1. World Solar Technology Report 2023 focuses on solar photovoltaics (solar PV) and specifically highlights advancements in crystalline silicon technology. Solar PV has shown remarkable growth and is projected to capture 56.4% of total renewable energy share by 2050. Crystalline silicon technology dominates the market with a 98% share.
 2. World Solar Market Report 2023 looks at how the solar power market has changed over time. It started in Europe but now the Asia-Pacific region is leading. The solar market has been growing really fast (37% each year) and expanded a lot in 2022.

IndiaSkills 2023-24

- **Context:** The Ministry of Skill Development & Entrepreneurship launched the IndiaSkills 2023-24 program and felicitated WorldSkills 2022 winners.

Key Highlights:

- India had secured 11th position in the global competition last year.
- It is the biggest skill competition in India held every two years exhibiting extraordinary talent from across the country with the support of State Governments and Industry.
- The IndiaSkills serves as a stepping stone to the WorldSkills Competition.
- Participants who will excel in IndiaSkills at the national level will take part in the global event.

3. World Solar Investment Report 2023 shows that investment in solar power went up a lot in 2022, to more than \$300 billion (a 36% increase from 2021). China, Germany and the USA were the top solar investment destinations. The report recommends that to keep solar power growing, we need to invest in electricity grids and storage, have a variety of supply chains and focus on developing markets.

20th OCTOBER, 2023

Delhi-Meerut RRTS Corridor

- **Context:** The maiden voyage of India's first regional train service, the Delhi-Meerut Regional Rapid Transit System (RRTS), also known as RapidX, is set to begin on a 17-kilometer stretch.

Key Highlights:

- The RRTS is developed by the National Capital Region Transport Corporation (NCRTC), a joint venture of the Government of India and governments of Delhi, Haryana, Rajasthan and Uttar Pradesh.
- The construction of the corridor began in 2019. The total length of the Delhi-Meerut corridor is 82 kilometers which will be covered in just an hour. It comprises 24 stations. It will be completed by 2025.
- The project has been constructed at a cost of 30,274 crore. The Asian Development Bank, New Development Bank and Asian Infrastructure Investment Bank have also funded this project.
- The RRTS is different from the Metro rail. It has an operational speed of 160 kilometers per hour against the Metro's speed of 80 kph.
- The RRTS trains feature several commuter-centric facilities such as overhead luggage racks, Wi-Fi, mobile and laptop charging facility at every seat. Each train will have one premium class car with wider seats, more legroom, and coat hangers. The trains will also come equipped with a vending machine facility.
- The first phase covering 17 kilometers will cover five stations- Sahibabad, Ghaziabad, Guldhar, Duhai

and the Duhai Depot. These RRTS stations will be integrated with various metro lines, airports and bus stands, wherever possible.

Niemann-Pick disease

- **Context:** Parents of children suffering from Niemann-Pick disease have urged the Government of India to notify this disease under the National Policy for Rare Diseases. This would enable eligible patients to receive financial support from the government and access Xenpozyme, an expensive enzyme replacement therapy used for treatment.

Key Highlights:

- Niemann-Pick disease is a group of rare and inherited metabolic disorders that affect the body's ability to process lipids or fats properly.
- This buildup of lipids can lead to a wide range of symptoms including liver and spleen enlargement, lung problems, neurological issues, and other complications.
- Niemann-Pick is caused by mutations in specific genes related to how the body metabolizes fat (cholesterol and lipids).
- The Niemann-Pick gene mutations are passed from parents to children in a pattern called autosomal recessive inheritance.
- This means that both the mother and the father must pass on the defective form of the gene for the child to be affected.
- There is currently no cure for Niemann-Pick diseases

CCI issues draft of 'leniency plus' norms

- **Context:** The Competition Commission of India (CCI) has released draft regulations under the 'leniency-plus' regime.

Key Highlights:

- The Leniency programme allows companies that provide sufficient information about a cartel in which they have participated to receive partial immunity from penalty.

- Such a programme helps competition authorities to discover secret cartels and to obtain insider evidence of the infringement.
- Leniency programme is provided under the Competition Act 2002. Under this, Competition Commission of India (CCI) may impose a lesser penalty on a person involved in a cartel if such person has made a full and true disclosure in respect of alleged violations and such disclosure is vital.
- Leniency plus regime was introduced in the Competition (Amendment) Act, 2023.
- In this regime, a cartel member cooperating with the Competition Commission of India (CCI) for leniency can reveal the existence of another unrelated cartel during the original leniency proceedings. In return, they receive an additional reduction in penalties.
- This strategy is proactive in enforcing antitrust laws and aims to encourage companies already under investigation for one cartel to report other cartels unknown to the competition regulator.
- A cartel is a collection of independent businesses or organizations that collude to manipulate the price of a product or service.
- Cartels are competitors in the same industry and seek to reduce that competition by controlling pricing in agreement with one another.
- Tactics used by cartels include reduction of supply, price-fixing, collusive bidding, and market carving.
- The actions of cartels hurt consumers through increased prices and lack of transparency.

21st OCTOBER, 2023

Microalgae are adapting to warming climate

- **Context:** Microalgae have adopted a unique strategy to adapt to global warming.

Key Highlights:

- Microalgae are microscopic algae that are invisible to the naked eye. They are typically found in freshwater and marine systems.
- They are unicellular species that exist individually or in chains or groups.
- Unlike higher plants, microalgae do not have roots, stems, or leaves.
- Microalgae are capable of performing photosynthesis. They produce approximately half of the atmospheric oxygen and capture the carbon dioxide from the atmosphere.
- They play a crucial role in the food chain as they serve as a primary source of nutrition for a wide range of aquatic organisms. They are often consumed by various aquatic creatures, including zooplankton, which, in turn, are eaten by larger organisms like fish.
- Some species of microalgae, such as spirulina and chlorella, are highly nutritious and are used as dietary supplements. They are rich in proteins, vitamins, minerals, and other essential nutrients.
- Microalgae can be used to produce biofuels, such as biodiesel. They have a high lipid content, which can be converted into fuel through various processes.
- Microalgae can help in wastewater treatment and carbon capture. They can absorb nutrients and pollutants from water and help improve water quality.
- Microalgae are used in biotechnology for the production of various compounds, including pigments, pharmaceuticals, and chemicals.
- As climate change reduces nutrient availability in the ocean, microalgae activate a protein called rhodopsin. This protein is related to the one responsible for low-light vision in the human eye.
- Rhodopsin enables these microalgae to thrive by using sunlight instead of traditional chlorophyll when nutrients are scarce. Rhodopsins are proposed to be major light capturers in the ocean. They absorb light as much as chlorophyll-based photosynthesis in the sea to generate energy and food.

Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act (POSH Act)

- **Context:** The Supreme Court has directed the Centre and all the states and Union territories (UTs) to immediately appoint district officers under the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act (POSH Act).

Key Highlights:

- The Sexual Harassment of Women At Workplace (Prevention, Prohibition and Redressal) Act of 2013, or POSH Act mandates States to appoint a District Officer in every district.
- District Officers would constitute Local Complaints Committees (LCCs) to receive complaints from women employed in small establishments with less than 10 workers or cases in which the accused is the employer himself.
- A District Officer would appoint nodal officers under the Act in rural, tribal and urban areas. The nodal officers would receive complaints and forward the same to the concerned Local Complaints Committees (LCCs).
- The Local Complaints Committees (LCCs) after conducting an inquiry have to submit its report to the district officer and the employer recommending action.
- The district officer will forward a brief statement on the annual reports submitted by every employer in their jurisdiction to the government.
- An Internal Committee (IC) is to be set up under the POSH Act if the organization has 10 or more employees.

