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THE HINDU

GS 2 : Polity, Governance, International Relations

1. Pact on recruitment of Indian citizens to work in Portugal

Union Cabinet has **approved the signing** of an agreement on the recruitment of Indian citizens to work in the Republic of **Portugal**.

- The agreement would set an **institutional mechanism** for partnership and cooperation between **India** and **Portugal** on sending and accepting Indian workers.
- It would ensure that the **movement of workers** happens smoothly with the maximum support from both sides.

India – Portugal relations:

- India and Portugal share **warm** and friendly relations. Portugal has advocated India's **permanent membership** in the UNSC.
- The countries have signed **various MoUs** in the areas of Defence, Agriculture & Allied sectors, Marine Research & Resources, Space, Avoidance of Double Taxation, Nanotechnology, Biotechnology, Public Administration and Governance Reforms, Culture, Youth & Sports, Higher Education (IITs) etc.
- Several **cultural exchanges** have been organised in Portugal through Indian Council for Cultural Relations (ICCR) under the MoU of **Cultural Cooperation**.
- Portugal has a **large Indian-origin diaspora** of about 120,000.

Trade and Commerce:

- **India-Portugal trade** in FY 2019-20 amounted to **\$886 million**. Indian exports stood at \$ 744.49 million and Portuguese exports at \$141.82 million.
- **Major exports from India:** Textiles; agriculture products; metals; chemicals; plastic and rubber; footwear; machinery and appliances; leather; vehicles and other transport materials.
- **Major exports from Portugal:** Machinery and appliances; minerals; plastic and rubber; chemicals; metals; textiles and apparels; leather; paper/pulp; wood and cork; optical and precision instruments.

Location of Portugal:

- Portugal is located on the **Iberian Peninsula** in south-western Europe.

- It is bordered to the:
 - West and South by Atlantic Ocean
 - North and East by Spain
- Spain is the **sole country** to have a land border with **Portugal**.
- Portugal shares geographic and cultural commonalities with countries of both northern Europe and Mediterranean.
- **Capital:** Lisbon

2. ATL Space Challenge 2021

Atal Innovation Mission (AIM), **NITI Aayog** in collaboration with the Indian Space Research Organisation (**ISRO**) and Central Board of Secondary Education (**CBSE**) successfully launched the ATL Space Challenge 2021 **for all school students** across the country.

- The challenge has been designed **for all the school students, mentors and teachers** across the country who not only are associated with schools having **ATL labs but for all the non ATL schools** as well.
- This is to ensure that **students of classes 6 to 12** are given an open platform where they can **innovate** and enable themselves to **solve digital age space technology problems**.
- The ATL Space Challenge 2021 aligns with the **World Space Week 2021** which is being observed **from 4 to 10 October each year** at the global level in order to celebrate the contributions of space science and technology.
- The aim of this challenge is **to enable innovation among young school students** to create something in space sector that will not only help them learn about the space but create something that space programme can use itself.
- ATL Space Challenge 2021 is one-of-a-kind challenge for school students across India that aligns with this year's theme of celebrating 75 years of India's independence as "Azadi Ka Amrit Mahotsav", an initiative of the Government of India to celebrate and commemorate 75 years of progressive India and the glorious history of its people, culture and achievements.
- The Space Challenge perfectly aligns with the objective of the nation-wide Mahotsav and support the young innovators and introduce them to newer technologies and skills.
- Meanwhile, Students (from ATL and Non-ATL schools) can submit their entries be it a solution or an innovation in team of up to three members. Teams must be aligned to one of the Challenge Themes under which the problems can be identified.

- Students can create a solution that can be implemented and adopted leveraging technologies such as:
 1. Explore Space
 2. Reach Space
 3. Inhabit Space
 4. Leverage Space

How to apply?

- The **application for the Space Challenge can be submitted on the AIM online portal**. Each team based on their interest and understanding, must select one problem which falls under any one of the Space Challenge themes. Each unique solution must be submitted under one theme only. Submitting the same solution/ innovation under multiple themes will result in immediate disqualification.
- The online application form submission will include- document submission (description of the innovation/ solution) and video submission (capturing a 360-degree view of the working prototype/ solution)
- School Teachers, ATL In-Charges and mentors have been advised to support the student teams. Individual member entry is not allowed. Also if the team size exceeds 3 members limit, the entry/ submission will be immediately disqualified.

3. 'Afghan soil must not be used for terror'

In News:

- The defence and foreign ministers of India and Australia met as part of the **Inaugural "2+2" Minister-level meeting**.

Details:

Afghan issue:

- Afghanistan among key issues discussed in first India-Australia '2+2' ministerial dialogue
- India and Australia displayed a common approach to the Afghan crisis, with both sides emphasizing that Afghanistan should never again become a safe haven for terrorism. The two countries also raised concerns over the unfolding humanitarian crisis in Afghanistan and called for urgent action in this direction.

Defence co-operation:

- India and Australia aim to **develop the overall defence and strategic cooperation, including in the Indo-Pacific** amid China's increasing military assertiveness in the region.
- The defence ministers highlighted the criticality of the maritime domain and reiterated the **shared vision of the Indo-Pacific region as a free, open, inclusive and prosperous domain**.
- The two countries discussed institutional frameworks for wide ranging collaboration including defence cooperation.
 - Australia stated that it would increase its defence diplomatic representation in New Delhi.
 - In the context of Defence Cooperation, both sides were glad to note continued participation of Australia in the Malabar Exercises.
 - India has also invited Australia to engage India's growing defence industry and to **collaborate in co-production and co-development of defence equipment**.
 - Both countries have also agreed to **collaborate on logistical support**.
- Australia formally announced that it will invite India to the "Exercise **Talisman Sabre**" in 2023.

Conclusion:

- The 2+2 dialogue signifies the importance of the **India Australia Comprehensive Strategic Partnership**.
- India and Australia share an important partnership which is based on a shared vision of free, open, inclusive and prosperous Indo-Pacific region.

4. Swachh Survekshan Grameen 2021

Context : Swachh Survekshan Grameen, 2021 was launched recently under the Swachh Bharat Mission Phase- 2.

- It aims to support acceleration of ODF plus interventions and results in the country.

Swachh Survekshan Grameen (SSG), 2021

- An expert agency has been hired to conduct the Survekshan 2021.
- As part of the Survekshan, Villages, Districts and States would be ranked using key parameters.

- 17,475 villages in 698 Districts across the country will be covered where schools, anganwadis, public health centres, haat/bazaars/religious places will be visited for survey.
- Also, citizens will be mobilised to provide feedback on sanitation related issues online using an application developed for the purpose.

Background of SSG

- It was Commissioned by the Department of Drinking Water and Sanitation (DDWS) under the Ministry of Jal Shakti.
- It has been a vehicle for creating a Janandolan (people's movement).
- Districts are ranked based on their performance on key quality and quantitative parameters.
- The weights to different elements of the SSG 2021 are as below:
 - Direct Observation of sanitation at public places – 30%
 - Citizen's Feedback – 35%
 - Service Level Progress on sanitation related parameters – 35%

Swachh Bharat Mission (Grameen) Phase-II

- SBM (G) Phase-II was approved in February 2020 by the Ministry of Jal Shakti and will be implemented from 2020-21 to 2024-25 with total outlay of Rs. 1,40,881 crores.
- It emphasizes the sustainability of achievements under phase I and to provide adequate facilities for Solid/Liquid & plastic Waste Management (SLWM) in rural India.
- The fund sharing pattern between Centre and States will be 90:10 for North-Eastern States and Himalayan States and UT of J&K; 60:40 for other States; and 100% for other Union Territories.

About Open Defecation Free (ODF), ODF+, ODF++ Status (for Town and Cities)

- **ODF:** At any point of the day, not even a single person is found defecating in the open.
- **ODF+:** At any point of the day, not a single person is found defecating and/or urinating in the open, and all community and public toilets are functional and well maintained.
- **ODF++:** If the area is already ODF+ and the faecal sludge/septage and sewage are safely managed and treated

5. CJI raises concern over backlog of criminal cases in Allahabad HC

In News:

- The Chief Justice of India has expressed concerns over the **large number of criminal cases pending in the Allahabad High Court**.
 - According to an affidavit filed by the U.P. government in the Supreme Court in August 2021, the Allahabad High Court has 1.83 lakh pending criminal appeals.

Recommendations:

- India has an **integrated system of judiciary**. **Increasing the efficiency of the subordinate judiciary** would be critical to expedite the disposal of pending cases. In this direction, the judicial process should be strengthened with the arrangement of **adequate facilities and resources for the subordinate judiciary**.
- The **number of working judges should be increased through timely appointment processes**.
 - The Allahabad High Court has 68 judicial vacancies out of a total sanctioned strength of 160 judges.
- Given the lack of good infrastructure for courts in India there is the need to **form a National Judicial Infrastructure Corporation (NJIC)** that will work towards creating infrastructure assets for the judiciary across the country
- The **proposed new bill on mediation and arbitration** should be expedited to help establish alternate avenues for dispute resolution and reduce the load on judiciary

GS 3 : Economy, Science and Technology, Environment

6. U.S. climate envoy Kerry to visit India next week for talks

In News:

- As a prelude to the 26th Conference of Parties (COP26) meeting on climate change scheduled to be held in Glasgow, **U.S. Special Presidential Envoy for Climate will be visiting India**.

Details:

- The visit by the U.S. Special Presidential Envoy for Climate will **bolster bilateral and multilateral climate efforts ahead of COP26.**
- The visit is part of the efforts to discuss measures to **raise global climate ambition.**
 - Countries are expected to go beyond their commitments made as part of the Paris Climate agreement in 2015 and set new goals at the COP26 to limit global warming.
- **India has committed to installing 450 GW of renewable energy capacity by 2030 as part of its climate action efforts** and the U.S. has envisaged interest in facilitating and speeding India's clean energy transition.
- The visit will also witness the **launch of the Climate Action and Finance Mobilization Dialogue (CAFMD)** envisaged as part of the **India-US Climate and Clean Energy Agenda 2030 Partnership.** This partnership is expected to mobilize finance and speed clean energy deployment.

Additional information:

- While **India is the third largest emitter of greenhouse gases, following China and the U.S., in absolute terms,** India's per capita emissions continues to be below the global average and much lower compared to that of China and the U.S.

7. Sheltered vultures now at home with nature

Drastic decline in vulture population in India:

- **Once very common, vultures are on the verge of extinction in India.**
 - The vulture population in India was estimated at 40 million once. Populations of **Oriental white-backed vultures, Long-billed vultures and Slender-billed vultures** have declined by over 97% since the 1990s, and that of the Oriental white-backed vultures by a drastic 99.9%.

Threat:

- Studies have shown that the vulture population was mainly affected by the **veterinary usage of Diclofenac in India.**
 - The Diclofenac drug is toxic to vultures if they feed on carcasses within 72 hours of the drugs' administration to such livestock.

- Despite Diclofenac being banned, its usage continues illegally in India mainly because it's a very low-cost drug.
- **Uncontrolled veterinary usage of non-steroidal anti-inflammatory drugs (NSAID)**, including Aceclofenac, Ketoprofen and Nimesulide is also adversely affecting the vulture population.
- Quarrying and blasting of stones where vultures nest have also adversely impacted the vulture populations.

Conservation efforts:

- As part of the efforts to conserve the dwindling population of vultures in India, eight captively bred Oriental white-backed vultures were released into the wild for the first time in India from the **Jatayu Conservation and Breeding Centre, Pinjore**.
 - Jatayu Conservation and Breeding Centre is situated at the **Bir Shikargah Wildlife Sanctuary of Haryana**.
 - Oriental white-backed vultures are **critically endangered**.
- These captive bred vultures have blended well into the natural habitat outside the aviary, offering hope to conservationists.

8. Transport and Marketing Assistance (TMA) scheme

- In February 2019, the Department of Commerce had introduced 'Transport and Marketing Assistance (TMA) for Specified Agriculture Products Scheme' to provide **assistance for the international component of freight, to mitigate disadvantage of higher freight costs faced by the Indian exporters of agriculture products**.
- The scheme was initially applicable for exports effected during the period from 01.03.2019 to 31.03.2020 and was later extended for exports effected up to 31.03.2021.
- Now the Department has notified 'Revised Transport and Marketing Assistance (TMA) for Specified Agriculture Products Scheme' for exports effected on or after 01.04.2021 up to 31.03.2022. The existing scheme will remain in operation for exports effected up to 31.03.2021.

What are the changes in the scheme?

- Dairy products, which were not covered under the earlier scheme, will be eligible for assistance under the revised scheme.
- Rates of assistance have been increased, by 50% for exports by sea and by 100% for exports by air.

9. Will the new scheme help textile industry?

In News:

- The Union Cabinet has cleared a **production linked incentive scheme in the man-made fibre apparel, fabrics, and technical textiles sectors.**

Details:

- The scheme is aimed at promoting industries that invest in the production of **64 select products.**
 - The product lines include 40 in man-made fibre apparel, 14 in man-made fibre fabrics, and 10 technical textile segments/products.
 - The list of products eligible for the scheme is expected to be the top globally traded man-made fibre product lines in which India's share is less than 5%.
- The scheme is for **two types of investments.** The **incentive is based on a combination of investment and turnover.**
 - Any person or company willing to invest minimum Rs. 300 Crore in Plant, Machinery, Equipment and Civil Works (excluding land and administrative building cost) to produce products of notified lines (MMF Fabrics, Garment) and products of Technical Textiles and register a minimum turnover of ₹600 crore once it commences operation, shall be eligible to apply under the scheme.
 - Any person or company willing to invest minimum Rs. 100 Crore shall be eligible to apply.
- The incentive for the higher investment scheme is likely to start at 15% of the turnover for the first year, and 11% in the case of the lower turnover plan, decreasing gradually by 1% each subsequent year over the next four years for both schemes.
- Priority will be given to investment in **aspirational districts, Tier-3, Tier-4 towns, and rural areas.**

Significance:

Align India's textile sector with global trends:

- The scheme will provide a big fillip to the man-made fibres and technical textiles segments of the textile industry and align India's textile sector with global trends.
- **While 70% of the total global fibre manufacturing and consumption, is man-made fibre-related in India it is just about 35%. Currently, Indian**

production and export of textile and clothing products are largely cotton-based.

Increase exports:

- Annual textile and clothing exports have remained largely stagnant in the range of \$30 billion-\$35 billion over the last seven years.
- The new scheme is expected to provide an **impetus to the trade prospects of India's textile sector.**
- The policy support to the vital MMF sector will help ensure **India remains competitive internationally in the textile sector.**

Help lower imports:

- The scheme will help India **lower its dependence on imports for man-made fibre apparel and fabrics, from countries such as China and Bangladesh.**
 - During 2018-19, the import of man-made fibre garments jumped 39% from the previous year, while the import of the man-made fibre yarn, fabrics, and made-ups rose 16%.
- The scheme will motivate industries to make fresh investments and scale up capacities. Global retail brands, which are present in India and sourcing man-made fibre-based apparel from other countries, are likely to start sourcing from India once the **garments become available at internationally competitive prices.**

10. Improved water management system for toxic textile effluents developed

- The **synthetic industrial dyes** and the effervescent colour and odour from textile industries have a **long-lasting carcinogenic and toxic effect on the ecological balance, especially aquatic life.**
- Indian researchers have developed an improved water management system that eliminates the toxicity of wastewater from textile industries and make it suitable for domestic and industrial usage.
 - The new method is an improvement over the **advanced oxidation process (AOP) treatment technique** for colour and odour properties in industrial effluents (dye-based).

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Revamped U.S.-India Strategic Clean Energy Partnership (SCEP) launched

In News : Indian Minister of Petroleum and Natural Gas co-chaired a virtual Ministerial meeting with the U.S. Secretary of Energy to launch the revamped U.S.-India Strategic Clean Energy Partnership (SCEP).

- The SCEP was launched in accordance with the U.S.-India Climate and Clean Energy Agenda 2030 Partnership announced by the Indian Prime Minister and USA's President at the Leaders' Summit on Climate held in April 2021.

Key takeaways from the meeting

- The revitalized SCEP emphasises on electrification and decarbonization of processes and end uses, scaling up and accelerating deployment of emerging clean energy technologies, and finding solutions for hard-to-decarbonize sectors.
- Under the SCEP, both countries agreed to collaborate across five pillars – Power and Energy Efficiency; Renewable Energy; Responsible Oil and Gas; Sustainable Growth; and Emerging Fuels.
 - Emerging fuels were newly added to the list of areas of cooperation
- **Climate Action and Finance Mobilization Dialogue under the Agenda 2030 Partnership** will also be launched on September 13 that builds upon the U.S. and India's bilateral energy dialogue that accelerated energy security and innovation.
- The two countries agreed to continue cutting edge research and development through the longstanding **U.S.-India Partnership to Advance Clean Energy-Research (PACE-R)**, prioritizing research on emerging clean energy technologies.
- They will also continue to advance innovation in civil nuclear power as a net-zero solution through different collaborative programmes, including the **Civil Nuclear Energy Working Group**.
- The private sector and other stakeholders across the technical areas shall be engaged to help deploy clean technologies.
- **India-U.S. Task Force on Biofuels** was also announced to build cooperation in the biofuels sector.

- The electric grid in India shall be strengthened to support large-scale integration of renewables.
- Gas Task Force shall be rechristened to India-U.S. Low Emissions Gas Task Force, which would continue to forge collaboration between the U.S. and Indian companies on innovative projects to support India's vision of a gas-based economy.

What are Emerging Fuels

- Emerging fuels are alternative fuels that are under development or already in use.
- **Benefits:** These fuels can increase energy security, reduce emissions, improve vehicle performance, and stimulate the economy.
- Examples include Biobutanol (Butyl Alcohol), Biofuels, Methanol, etc.

2. UN World Tourism Organization (UNWTO) award

In News : Ladhpora Khas, a village in Madhya Pradesh's Niwari district, has been nominated by The Union Ministry of Tourism in the 'Best Tourism Village' category for the United Nations World Tourism Organization (UNWTO) Award.

- Ladhpora Khas village is located near tourist town Orchha.

'Rural Tourism Project'

- The 'Rural Tourism Project' has been started in villages across Madhya Pradesh, including in Ladhpora Khas.
- **Objective:** Giving shape to the concept of village tourism by adding new dimensions.
- In the next five years, 100 villages will be developed from the point of view of rural tourism.
- Among these, suitable sites will be selected and developed around tourist places, including Orchha, Khajuraho, Mandu, Sanchi, Pachmarhi, Tamia, Panna National Park, Bandhavgarh National Park, Sanjay Dubri National Park, Pench and Kanha National Park.
- MP Tourism Board is also providing training to develop tourism-related products with community participation
- **Significance:** Rural tourism shall provide an opportunity to local people to learn about the interests and needs of tourists while maintaining the importance of local culture and tradition.
 - The local community will directly benefit from the development of tourism in their area through job creation.

What is the United Nations World Tourism Organization (UNWTO)?

- United Nations World Tourism Organization (UNWTO) is the United Nations specialized agency entrusted with the promotion of responsible, sustainable and universally accessible tourism, having
- Its headquarters is in Madrid, Spain.
- It encourages the implementation of the Global Code of Ethics for Tourism to maximize the contribution of tourism to socio-economic development, while minimizing its possible negative impacts.

3. Swachh Survekshan Grameen 2021

The Minister of State for Jal Shakti presided over the **e-launch** of **Swachh Survekshan Grameen 2021** under Swachh Bharat Mission (Grameen) Phase -II.

Major Highlights of SSG:

- The Department of Drinking Water and Sanitation (DDWS) will undertake **Swachh Survekshan Grameen (SSG) 2021**.
 - DDWS had commissioned **SSG** in 2018 and 2019.
- SSG 2021 will **support acceleration** of ODF Plus interventions, improving ODF Sustainability, and Solid and Liquid Waste Management activities across the villages in the country.
- **SSG 2021 Protocol document**; SSG 2021 Dashboard and the mobile App for Citizens feedback was released.
 - The SSG 2021 mobile App will be available in major **local Indian languages**.
- In **Phase 2** of Swachh Bharat Mission (Grameen), the **SSG** will focus on cleanliness, transparency, and people's participation.

About

- The **Surveskshan** provides a great opportunity to give the necessary momentum to **ODF Plus** activities.
- It will engage **districts and states** in enhancing the sanitation, overall cleanliness, and waste management.
- The **findings of the Survey** will help in bridging the gaps by identifying challenges on ground and working with all states. The survey will be monitored with regular field visits.
- It will help to **overcome the challenges** occurred due to Covid pandemic and achieve **ODF Plus** status by the villages in near future.

About Swachh Bharat Mission (Rural)-Phase 2:

- The second phase of **Swachh Bharat Mission (Rural)** was approved in February 2020, with an estimated central and state budget of Rs 52,497 crore.
 - The second phase will be implemented between 2020-21 and 2024-25.
- It will focus on **Open Defecation Free Plus (ODF Plus)**, which includes ODF sustainability and solid and liquid waste management (SLWM).
 - The ODF Plus programme will converge with **MGNREGA**, especially for grey water management, and will complement the Jal Jeevan Mission.
 - The programme will ensure that **everyone** uses a toilet.
- The **fund sharing pattern** between the Centre and States will be:
 - 90:10 for North-Eastern States, Himalayan States and UT of J&K
 - 60:40 for other States
 - 100:0 for other Union Territories.

About Swachh Bharat Mission-Grameen:

- Launched on 2nd October, 2014 to accelerate the efforts to achieve universal sanitation coverage and to focus on sanitation.

Aim:

- To achieve a **clean and open defecation free (ODF)** India by October 2, 2019.
- **Implementation:** Ministry of Drinking Water and Sanitation.

Objectives:

- To improve the level of **cleanliness** in rural areas through Solid and Liquid Waste Management.
- Making **Gram Panchayats** Open Defecation Free (ODF), clean and sanitized.

Significance of the mission:

- The **rural sanitation Programme** was started in October 2, 2014, when the sanitation coverage in the country was 38.7 per cent.
- More than 10 crore individual toilets have been constructed since the launch of the mission.
- Rural area in all the States have declared themselves ODF on 2nd October, 2019.

GS 3 : Economy, Science and Technology, Environment

4. Findings of Chandrayaan-2:

In News :

The Orbiter and other instruments of **Chandrayaan-2 mission** have, in two years, gathered a wealth of new information that has added to our knowledge about **the Moon and its environment**.

What happened to Chandrayaan-2?

- Chandrayaan-2, **India's second mission to the Moon**, had failed to make a **soft-landing** on the lunar surface.
- The lander and rover malfunctioned in the final moments and crash-landed, getting destroyed in the process.

But, why is this mission still relevant?

Despite the failure, the mission's orbiter and other parts have been functioning normally, gathering information. Recently, the Indian Space Research Organisation (ISRO) released the information gathered by the scientific payloads till now, some of which were still to be analysed and assessed.

What is the information gathered?

Presence of water molecules on moon: The mission has given the most precise information about the presence of H₂O molecules on the Moon till date.

Presence of Minor elements: Chromium, manganese and Sodium have been detected for the first time through remote sensing. The finding can lay the path for understanding magmatic evolution on the Moon and deeper insights into the nebular conditions as well as planetary differentiation.

Information about solar flares: A large number of microflares outside the active region have been observed for the first time, and according to ISRO, this “has great implications on the understanding of the mechanism behind heating of the solar corona”, which has been an open problem for many decades.

Exploration of the permanently shadowed regions as well as craters and boulders underneath the regolith, the loose deposit comprising the top surface extending up to 3-4m in depth. This is expected to help scientists to zero in on future landing and drilling sites, including for human missions.

Chandrayaan-2 Mission:

The Chandrayaan-2 mission, which was lost after it **hard landed on the dark side of the Moon** in 2019, remains active in the form of its orbiter hovering over the Moon.

Scientists used **the Solar X-ray Monitor (XSM)** onboard Chandrayaan-2 in September 2019 to study the Sun.

- The primary objective of Chandrayaan 2 was to demonstrate the ability to soft-land on the lunar surface and operate a robotic rover on the surface.
- The mission consisted of **an Orbiter of the Moon, Vikram (after Vikram Sarabhai) – the lander and Pragyan (wisdom) – the rover**, all equipped with scientific instruments to study the moon.

5. Privatisation of Railways

Context:

The employees union of the North Western Railway (NWR) protested recently against the privatisation of railways announced by Centre recently.

Rail Privatisation:

Objectives of privatisation:

1. To introduce modern technology rolling stock with reduced maintenance.
2. Reduced transit time.
3. Boost job creation.
4. Provide enhanced safety.
5. Provide world-class travel experience to passengers.

6. Reduce demand-supply deficit in the passenger transportation sector.

Pros:

1. **Improved Infrastructure** – It will lead to better infrastructure which in turn would lead to improved amenities for travellers.
2. **Balancing Quality of Service with High Fares** – The move would foster competition and hence lead to overall betterment in the quality of services.
3. **Lesser Accidents** – Because private ownership is synonymous with better maintenance, supporters of privatisation feel that it will reduce the number of accidents, thus resulting in safe travel and higher monetary savings in the long run.

Cons:

Coverage Limited to Lucrative Sectors – An advantage of Indian Railways being government- owned is that it provides nation-wide connectivity irrespective of profit. This would not be possible with privatisation since routes which are less popular will be eliminated, thus having a negative impact on connectivity.

Fares – Given that a private enterprise runs on profit, it is but natural to assume that the easiest way of accruing profits in Indian Railways would be to hike fares, thus rendering the service out of reach for lower income groups. This will defeat the entire purpose of the system which is meant to serve the entire population of the country irrespective of the level of income.

Accountability – Private companies are unpredictable in their dealings and do not share their governance secrets with the world at large. In such a scenario it would be difficult to pin the accountability on a particular entity, should there be a discrepancy.

Recent Decision of Ministry of Railways in this regard:

1. On July 1, 2020, the Ministry of Railways announced that 151 trains in 109 pairs of routes will be operated by private sectors. It comprises just 5% of the 2,800 Express and Mail services operated by Indian Railways.
2. Private trains will start operating tentatively in 2023 and in 12 clusters.

3. Private companies will be given the freedom to procure locomotives and trains from their source of choice.
4. Railways has invited **Request for Qualifications proposals**, for scrutiny of vendor capabilities, from those who can bring modern trains for operations on existing rail infrastructure.

6. Impact of fossil fuel extraction on global warming:

Context:

According to a new study (published in the journal Nature), global **fossil fuel extraction** needs to go down to keep global warming to below **1.5 degrees Celsius**, which is the target set by the 2015 Paris Climate Agreement.

Key findings:

1. The global oil and gas production should decline by three per cent per year until 2050 to reach the target set by the 2015 Paris Climate Agreement.
2. As of now, both planned and operational fossil fuel extraction projects are not conducive to meeting the targets set.
3. A substantial number of regions in the world have already reached their peak fossil fuel production and that any increase in fossil fuel production will have to be offset by a decline elsewhere, if the goal wants to be achieved.
4. The required unextracted reserves need to be 58 percent for oil, 59 percent for fossil methane gas and 89 percent for coal by 2050. Which is to say that these percentages of fossil fuels need to remain unextractable if global warming targets are kept in mind.

Why is there a need to limit the use of fossil fuels?

Global cost of air pollution from fossil fuels is high: It was around \$2.9 trillion per year, or \$8 billion per day, which was 3.3 per cent of the world's GDP at the time.

- India is estimated to bear a cost of \$150 billion from air pollution caused by fossil fuels.

Challenges ahead:

1. As of now, human activities have already caused global temperatures to rise by about 1 degree Celsius above pre-industrial levels (1950-1900).
2. Currently, countries' emissions targets are not in line with limiting global warming to under 1.5 degrees.

What is the goal set out by the Paris Climate Agreement?

The Paris Climate Agreement that was signed by 195 countries in 2015 has set out a goal to limit climate change in the coming decades.

- The agreement aims to slow the process of global warming by making efforts to **“hold the increase in the global average temperature to well below 2 degrees above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees above pre-industrial levels”**.

Need of the hour for India:

1. Reduce emphasis on domestic exploration.
2. Increase productivity of producing fields.
3. Increase strategic reserves.
4. Restructure and reorganize public sector petroleum companies.
5. Avoid siloed thinking.

7. Cryptocurrency and related issues:

In News:

RBI Governor Shaktikanta Das recently said the central bank continues to have “serious and major” concerns about cryptocurrencies like Bitcoin and has conveyed them to the government.

Background:

Private cryptocurrencies like Bitcoin, which are unregulated, mined through a complex process and have highly volatile prices, are under the regulatory gaze in India despite their proliferation as an asset class.

Present status of Cryptocurrencies in India:

- An inter-ministerial panel on cryptocurrency has recommended that all private cryptocurrencies, except any virtual currencies issued by state, will be prohibited in India.
- The Reserve Bank of India (RBI) has also raised concerns on the cryptocurrencies traded in the market and conveyed them to the Centre.
- Back in March 2020, **the Supreme Court had allowed banks and financial institutions to reinstate services related to cryptocurrencies** by setting aside the RBI's 2018 circular that had prohibited them (Based on **the ground of "proportionality"**).

What are Cryptocurrencies?

Cryptocurrencies are digital currencies in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank.

Examples: Bitcoin, Ethereum etc.

Why is the RBI against the use of cryptocurrencies?

1. **Sovereign guarantee:** Cryptocurrencies pose risks to consumers. They do not have any sovereign guarantee and hence are not legal tender.
2. **Market volatility:** Their speculative nature also makes them highly volatile. For instance, the value of Bitcoin fell from USD 20,000 in December 2017 to USD 3,800 in November 2018.
3. **Risk in security:** A user loses access to their cryptocurrency if they lose their private key (unlike traditional digital banking accounts, this password cannot be reset).
4. **Malware threats:** In some cases, these private keys are stored by technical service providers (cryptocurrency exchanges or wallets), which are prone to malware or hacking.
5. Money laundering.

SC Garg Committee recommendations (2019):

1. Ban anybody who mines, hold, transact or deal with cryptocurrencies in any form.
2. It recommend a jail term of one to 10 years for exchange or trading in digital currency.
3. It proposed a monetary penalty of up to three times the loss caused to the exchequer or gains made by the cryptocurrency user whichever is higher.
4. However, the panel said that the government should keep an open mind on the potential issuance of cryptocurrencies by the Reserve Bank of India.

8. Average debt of farm households up 57%

The Ministry of Programme Implementation and Statistics has released **Situation Assessment of Agricultural Households and Land Holdings of Households in Rural India, 2019** recently.

- The survey was conducted by the **National Statistical Office**.

Major Highlights:

1. **Average outstanding loan** per agricultural household increased 57.7% to Rs 74,121 in 2018 compared with Rs 47,000 five years ago in 2013.
2. **Average monthly income** from different sources rose 59% to Rs 10,218 based on the 'paid out expenses' approach in 2018-19 compared with Rs 6,426 in 2012-13.
 - In the **paid-out expenses** approach, all out of pocket expenditure incurred for each type of input is taken into account.
3. More than 50% of **increase in income** was on account of higher monthly wages, which almost doubled to 4,063 in 2018 compared with Rs 2,071 in 2013.
4. Number of **agricultural households** with outstanding loans at 4.67 crore during July-December 2018, about one lakh less than the 2013 estimate.
5. While the **national average outstanding loan** was Rs 74,121 during July-December 2018, it was the highest **in Andhra Pradesh** at Rs 2.45 lakh and lowest in **Nagaland** at Rs 1,750.
 - 11 states — Andhra Pradesh, Kerala, Punjab, Haryana, Telangana, Karnataka, Rajasthan, Tamil Nadu, Himachal Pradesh, Maharashtra and Madhya Pradesh had **higher average outstanding loan per household** than the national average in 2018.
 - 3 states — Tamil Nadu, Manipur and Arunachal Pradesh registered a decline.
6. Of the **Rs 10,218 average monthly income** (based on 'paid out expenses' approach) per agricultural household:

- Rs 4,063 came from wages; Rs 134 from leasing out of land; Rs 3,798 came as net receipt from crop production; Rs 1,582 as net receipt from farming of animals; and Rs 641 as net receipt from non-farm business.
- 7. **Non-agricultural households** living in rural areas are 7.93 crore. 83.5% of rural households had less than 1 hectare of land, while only 0.2% possessed land in excess of 10 hectare.

Definition of Agricultural Household:

- The survey defines an **agricultural household** as one receiving more than **Rs 4,000** as value of produce from **Agri-activities** (e.g., cultivation of field crops, horticultural crops, fodder crops, plantation, animal husbandry, poultry, fishery, piggy, bee-keeping, vermiculture, sericulture, etc.) and having at **least one member self-employed** in agriculture either in principal status or in subsidiary status during the last 365 days.

Prelims Practice Questions

1. Which of the following is/are the source(s) for methanol production?

1. High ash coal
2. Agricultural residue
3. Natural gas
4. Municipal waste

Select the correct answer using the code given below:

- A 1 and 2 only
- B 1 and 4 only
- C 3 only
- D 1, 2, 3 and 4

Answer : D

Explanation

- Recently, the first **Indigenously Designed High Ash Coal Gasification Based Methanol Production Plant** has been opened in Hyderabad.
 - With this, Government owned engineering firm BHEL (Bharat Heavy Electricals Limited) has successfully demonstrated a facility to create methanol from high ash Indian coal.

- Methanol is a low carbon, hydrogen carrier fuel produced from **high ash coal, agricultural residue**, CO₂ from thermal power plants, **natural gas** and renewable sources such as **municipal waste**, biomass.
- Methanol although slightly lower in energy content than petrol and diesel, methanol can replace both these fuels in the transport sector (road, rail and marine), energy sector (comprising boilers, process heating modules, tractors and commercial vehicles) and retail cooking (replacing LPG [partially], kerosene and wood charcoal).
- **Hence, option D is correct.**

2. Which of the following is/are finding(s) of Chandrayaan-2 Orbiter?

1. Detection of Argon-40
2. Detection of Chromium and Manganese
3. Detection of the Subsurface Water-ice

Select the correct answer using the code given below:

- A 1 only
B 1 and 3 only
C 3 only
D 1, 2 and 3

Answer : D

Explanation

Findings of Chandrayaan-2 Orbiter:

- **Detection of Argon-40:** The mass spectrometer CHandra's Atmospheric Compositional Explorer 2 (CHACE 2) conducted first-ever in-situ study of the composition of the lunar neutral exosphere from a polar orbital platform.
 - It detected and **studied the variability of the Argon-40 at the middle and higher latitudes of the Moon**, depicting the radiogenic activities in the mid and higher latitudes of the Lunar interior. **Hence, statement 1 is correct.**
- **Detection of Chromium and Manganese:** Chandrayaan-2 Large Area Soft X-ray Spectrometer (CLASS) payload **has detected minor elements of chromium and manganese through remote sensing. Hence, statement 2 is correct.**

- Observations of Microflares of the Sun: The observations of microflares of the Sun, during the quiet-Sun period, which provide important clues on the coronal heating problem of the Sun, were made by the Solar X-ray Monitor (XSM) payload.
- **Detection of the Hydration Features:** The first-ever unambiguous detection of the hydration features of the Moon was achieved by Chandrayaan-2 with its Imaging Infra-Red Spectrometer (IIRS) payload, which captured clear signatures of Hydroxyl and water-ice on the lunar surface.
- **Detection of the Subsurface Water-ice:** The Dual Frequency Synthetic Aperture Radar (DFSAR) instrument **detected signatures of the subsurface water-ice, and achieved high resolution mapping** of the lunar morphological features in the polar regions. **Hence, statement 3 is correct.**
- Imaging the Moon: Imaging the moon from 100 km lunar orbit with "best-ever" achieved resolution of 25 cm with its Orbiter High Resolution Camera (OHRC).
- Geological Findings: The Terrain Mapping Camera (TMC 2) of Chandrayaan-2, which is conducting imaging of the Moon at a global scale, has found interesting geologic signatures of lunar crustal shortening, and identification of volcanic domes.
- Study of Moon's Ionosphere: The Dual Frequency Radio Science (DFRS) experiment onboard Chandrayaan-2 has studied the ionosphere of the Moon, which is generated by the solar photo-ionisation of the neutral species of the lunar exosphere.

3. Consider the following statements:

1. ARISE is an initiative launched under Atal Innovation Mission (AIM).
2. ARISE aims to stimulate innovation and research in the MSME industry.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : C

Explanation

- **Atal Innovation Mission (AIM)** is a Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.

- **Major Initiatives launched under AIM:**
 - Atal Tinkering Labs: Creating problem solving mindset across schools in India.
 - Atal Incubation Centers: Fostering world class startups and adding a new dimension to the incubator model.
 - Atal New India Challenges: Fostering product innovations and aligning them to the needs of various sectors/ministries.
 - **Atal Research and Innovation for Small Enterprises (ARISE):** To stimulate innovation and research in the **MSME industry**. Hence, **statements 1 and 2 are correct.**

4. Consider the following statements:

1. The Thar desert is bordered by the Indus river plain in the west and Aravalli range in southeast.
2. Barkhans are saline lake beds found in the Thar desert.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer :A

Explanation

- The Thar desert is also called the 'Great Indian Desert'.
 - It is located partly in Rajasthan state, northwestern India, and partly in Punjab and Sindh provinces, eastern Pakistan.
 - It is **bordered by the irrigated Indus River plain to the west**, the Punjab Plain to the north and northeast, the **Aravalli Range to the southeast**, and the Rann of Kachchh to the south. **Hence, statement 1 is correct.**
- The surface of Thar consists of aeolian (wind-deposited) sand that has accumulated over the past 1.8 million years.
 - Presents an undulating surface, with high and low sand dunes separated by sandy plains and low barren hills, or bhakars, which rise abruptly from the surrounding plains.

- Barchan, also spelled **Barkhan** are crescent-shaped sand dune produced by the action of wind predominately from one direction. **Hence, statement 2 is not correct.**
- Several playas (**saline lake beds**), locally known as **dhands**, are scattered throughout the region.

5. Which of the following committees are related to reforms in Banking sectors?

1. Narasimham Committee
2. P J Nayak Committee
3. Abhijit Sen Committee

Select the correct answer using the code given below:

- A 1 and 2 only
- B 2 and 3 only
- C 1 only
- D 1, 2 and 3

Answer : A

Explanation

- The Union Budget 2021 has announced the privatisation of two public sector banks and one general insurance company in the upcoming fiscal 2021-22.
- Many committees had proposed bringing down the government stake in public banks below 51%:
- **Narasimham Committee, 1998**
 - The merger of major banks which will have a 'multiplier effect' on the industry.
 - Improve the strength of the Indian banking system the committee recommended to raise capital adequacy norms.
 - Review of functions of boards to adopt a professional corporate strategy to check the imbalance between government control over the banks in the form of management and ownership, and bank autonomy.
- **PJ Nayak Committee, 2014**
 - Conversion of PSBs into Companies as per the Companies Act.
 - Formation of a Bank Investment Company (BIC) under the Companies Act and transfer of shares by the central government in PSBs to the BIC.
 - BIC should be given the controlling power of boards of PSBs.
 - Proportionate voting rights to all shareholders and reduction of government shareholding to 40%.

- Abhijit Sen Committee (2002) is related to the **Long Term Food Policy of India**.
- The Abhijit Sen committee (2007) was formed to study the **impact, if any, on futures trading on agricultural commodity prices (not banking reforms)**.
- **Hence, option A is correct.**

6. Consider the following statements about National Fellowship Scheme for Scheduled Caste Students

1. Ministry of Education provides Fellowships to Scheduled Caste students pursuing M.Phil and Ph.D.
2. It is a central sector scheme and funds are not allocated state wise.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b

Explanation

- The Ministry of Social Justice and Empowerment implements the National Fellowship for Scheduled Castes (NFSC).
- It provide Fellowships to Scheduled Caste students pursuing M.Phil and Ph.D.
- It is a Central Sector Scheme and funds are not allocated State wise.

Mains Practice Questions

1. According to the World Bank, one in every 12 households in India has a person living with a disability. In the light of this statement, discuss the steps taken by the government to protect the rights of disabled in India. Also, highlight the shortcomings of these measures. (150 words).

Approach

- Introduce by enlisting percentage of population with disability in India
- Mention the schemes, policies, steps that government has taken to address concerns of disabled persons
- Discuss the challenges remaining

2. The Green Revolution and consequent increase in agriculture produce has worked to the disadvantage of farmers. Critically analyse. (250 words)

Introduction

- A large increase in crop production in developing countries achieved by the use of artificial fertilizers, pesticides, and high-yield crop varieties is referred to as Green revolution.
- To increase global food supply and reduce world hunger, farmers started to cultivate land using new farming techniques. These methods worked, crop yields climbed but also created a few unwanted side effects.