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## **GENERAL STUDIES-1**

### **INDIAN CULTURE**

#### **KONARK SUN TEMPLE**

An interpretation centre with world-class facilities that showcases the unique architectural features of Kalingan era was recently inaugurated at Sun Temple, Konark. The Indian Oil Foundation has developed the interpretation centre and the tourist facilitation centre.

#### **Details**

Built in the 13th century, the Konark temple was conceived as a gigantic chariot of the Sun God, with 12 pairs of exquisitely ornamented wheels pulled by seven horses.

- It was built by King Narasimhadeva I, the great ruler of Ganga dynasty.
- The temple is included in UNESCO World Heritage Site in 1984 for its architectural greatness and also for the sophistication and abundance of sculptural work.
- The temple is perfect blend of Kalinga architecture, heritage, exotic beach and salient natural beauty.
- The Konark is the third link of Odisha's Golden Triangle. The first link is Jagannath Puri and the second link is Bhubaneswar (Capital city of Odisha).
- This temple was also known as 'BLACK PAGODA' due to its dark color and used as a navigational landmark by ancient sailors to Odisha. Similarly, the Jagannath Temple in Puri was called the "White Pagoda".
- It remains a major pilgrimage site for Hindus, who gather here every year for the Chandrabhaga Mela around the month of February.

#### **KALAMKARI ART**

A 'Kalamkari art museum' has been opened at Pedana in Andhra Pradesh. The museum traces the history of the art and displays the process of extraction of natural colours from various sources.

#### **Details**

Kalamkari is an ancient style of hand painting done on cotton or silk fabric with a tamarind pen, using natural dyes. The word Kalamkari is derived from a Persian word where 'kalam' means pen and 'kari' refers to craftsmanship.

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There are two identifiable styles of Kalamkari art in India – Srikalahasti style and Machilipatnam style.

- In the Machilipatnam style of Kalamkari, motifs are essentially printed with hand-carved traditional blocks with intricate detailing painted by hands.
- On the other hand, Srikalahasti style of painting draws inspiration from the Hindu mythology describing scenes from the epics and folklore. This style holds a strong religious connect because of its origin in the temples.

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### **NATIONAL CULTURE FUND**

As per latest data released by the government, 34 projects have been successfully implemented under National Culture Fund Scheme till date, thus, promoting, protecting and preserving India's cultural heritage

**About National Culture Fund:** National Culture Fund (NCF) was set up as a Trust under the Charitable Endowment Act, 1890 in November 1996 by the Government, with a view to mobilize extra resources through Public Private Partnerships.

- The National Culture Fund is managed and administered by a council headed by Hon'ble Culture Minister to decide the policies and an Executive Committee headed by Secretary, Culture to actualize those policies.
- The Fund aims at inviting the participation of the corporate sector, non-government organizations, private/public sector as well as individuals in the task of promoting, protecting and preserving India's cultural heritage.
- All the projects undertaken by the NCF are completed within a specified period, in accordance with an MoU signed by NCF with the concerned donor organization.

### **WORLD HERITAGE SITE**

As many as 6 monuments/historical sites in the North Eastern states have been identified tentatively for listing under World Heritage Site. Monuments/sites identified/placed under tentative list for listing under world heritage in the north eastern states are:

- Apatani Cultural Landscape, Arunachal Pradesh.
- Iconic Saree Weaving Clusters of India.
- Moidams – the Mound – Burial System of the Ahom Dynasty, Assam.

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- Namdapha National Park, Arunachal Pradesh.
- River Island of Majuli in midstream of Brahmaputra River in Assam.
- Thembang Fortified Village, Arunachal Pradesh.

### **UNESCO world heritage site:**

A UNESCO World Heritage Site is a place that is listed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as of special cultural or physical significance.

- The list is maintained by the international World Heritage Programme administered by the UNESCO World Heritage Committee, composed of 21 UNESCO member states which are elected by the General Assembly.
- Each World Heritage Site remains part of the legal territory of the state wherein the site is located and UNESCO considers it in the interest of the international community to preserve each site.
- Italy is the home for the largest number of sites with 53.

#### **Selection of a site:**

To be selected, a World Heritage Site must be an already classified landmark, unique in some respect as a geographically and historically identifiable place having special cultural or physical significance (such as an ancient ruin or historical structure, building, city, complex, desert, forest, island, lake, monument, mountain, or wilderness area). It may signify a remarkable accomplishment of humanity, and serve as evidence of our intellectual history on the planet.

#### **Legal status of designated sites:**

UNESCO designation as a World Heritage Site provides prima facie evidence that such culturally sensitive sites are legally protected pursuant to the Law of War, under the Geneva Convention, its articles, protocols and customs, together with other treaties including the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict and international law.

#### **What are endangered sites?**

A site may be added to the List of World Heritage in Danger if there are conditions that threaten the characteristics for which the landmark or area was inscribed on the World Heritage List. Such problems may involve armed conflict and war, natural disasters, pollution, poaching, or uncontrolled urbanization or human development.

- This danger list is intended to increase international awareness of the threats and to encourage counteractive measures. Threats to a site can be either proven imminent threats or potential dangers that could have adverse effects on a site.
- The state of conservation for each site on the danger list is reviewed on a yearly basis, after which the committee may request additional measures, delete the property from the list if the threats have ceased or consider deletion from both the List of World Heritage in Danger and the World Heritage List.

### **WALMIKI AND MALHAR, TWO NEW LANGUAGES DISCOVERED**

Researchers have discovered two new languages- Walmiki and Malhar.

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### **Details**

The languages are categorised 'endangered' as the number of people speaking is small. These languages are spoken in Andhra Pradesh and Odisha. Only a few people living in the forest and hilly areas speak these languages.

- Walmiki is spoken in Koraput of Odisha and on the bordering districts of Andhra Pradesh. Walmiki is an isolate language i.e. it does not belong to a family of languages. The name of the language is also interesting and indicative because the speech community claims descent from the great Indian saint-poet Valmiki.
- Malhar is spoken in a remote and isolated hamlet which is almost 165 km from Bhubaneswar. The community consists of about 75 speakers including children. It belongs to the North Dravidian subgroup of the Dravidian family of languages and has close affinities with the other North Dravidian languages like Malto and Kurux spoken in West Bengal, Jharkhand and Bihar.

### **Backgrounder:**

The Union Government has been making efforts to document the endangered tribal and minor languages. There are several languages unknown to the world and waiting to be discovered and documented. India is also considered a linguists Paradise and termed a sociolinguistic giant.

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## **GENERAL STUDIES-2**

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## **POLITY**

### **'ONE CANDIDATE, ONE SEAT'**

The Election Commission has told the Supreme Court that it supports the proposal to allow one candidate to contest from only one constituency in an election. The EC expressed this view in an affidavit it filed in the petition over the matter.

#### **Backgrounder:**

The Supreme Court had in December 2017 issued notices seeking replies from the Election Commission and the Centre on the issue. At the time, the Supreme Court had said the practice of one candidate contesting multiple seats was a drain on the exchequer since it necessitated bypolls.

A petition has been filed in the Supreme Court challenging Section 33(7) of the Representation of the People Act of 1951 that allows a person to contest elections to Parliament and state assemblies from two constituencies and sought an end to the practice.

#### **What's the issue?**

Political parties across the country field senior leaders from more than one seat in a bid to ensure victory. If they win from multiple seats, these leader are then required to vacate other seats and continue to hold only one. This means a general election is usually followed closely by a bye-election to the seats that have been vacated.

#### **Section 33(7) of RPA:**

Section 33(7) of the Representation of People's Act permits a candidate to contest any election (Parliamentary, State Assembly, Biennial Council, or bye-elections) from up to two constituencies. The provision was introduced in 1996 prior to which there was no bar on the number of constituencies from which a candidate could contest.

#### **Why candidates should be barred from contesting from more than one seat?**

One person, one vote & one candidate, one constituency is the dictum of democracy. However, as per the law, as it stands today, a person can contest the election for the same office from two constituencies simultaneously. When a candidate contests from two seats, it is imperative that he has to vacate one of the two seats if he wins both. This, apart from the consequent unavoidable financial burden on the public exchequer,

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government manpower and other resources for holding bye-election is also an injustice to the voters of the constituency which the candidate is quitting from.

**Alternative suggested by the Election commission:**

The ECI has alternatively suggested that if existing provisions are retained then the candidate contesting from two seats should bear the cost of the bye-election to the seat that the contestant decides to vacate in the event of his/her winning both seats. The amount in such an event could be Rs 5 lakh for assembly election and Rs 10 lakh for parliament election.

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## **GOVERNANCE ISSUES AND POLICIES**

### **NATIONAL REGISTER OF CITIZENS (NRC)**

The verification of citizenship documents of 29 lakh married women, mostly migrant Muslims, for the Supreme Court-monitored exercise to update the 1951 National Register of Citizens (NRC) has begun in Assam. The verification of family trees and the documents of married women has to be completed by May 31, the deadline set by the court.

#### **What is National Register of Citizens (NRC)?**

The NRC was introduced to identify illegal immigrants from Bangladesh and recognise the Indian citizens in Assam. It was first prepared in 1951 and Assam is the only state having this arrangement.

Under NRC, immigrants who have documents proving that they entered Assam before 1971 will be considered Indian citizens and others have to show that their ascendants have lived in Assam even before 1971.

#### **Why update?**

National Register of Citizens (NRC) updation basically means the process of enlisting the names of those persons (or their descendants) whose names appear in any of the Electoral Rolls up to 1971, 1951 NRC or any of the admissible documents stipulated. The NRC will be updated as per the provisions of The Citizenship Act, 1955 and The Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.

#### **Significance of the move:**

The publication of the updated NRC is indeed a positive step in so far as it puts to rest wild speculations about the extent of the illegal migrant

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population in Assam and the resulting polarisation that political parties have been exploiting to make electoral gains.

### **In conclusion**

The absence of any clear policy as to how to deal with the proclaimed illegal migrants has created a sense of unease in the minds of many presently residing in Assam. Further, while the NRC is being updated for Assam, there is no plan to prepare similar NRCs for the other states in the North East where illegal migration continues to be a volatile issue.

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### **SC/ST ATROCITIES ACT**

The government has filed a petition seeking review of the Supreme Court order diluting the provisions of the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, which protects marginalised communities against discrimination and atrocities.

### **What's the issue?**

On March 20, the Supreme Court banned automatic arrests and registration of criminal cases under the SC/ST Act, triggering widespread criticism and outcry from the dalit community.

- The apex court said public servants can't be prosecuted without the approval of the appointing authority, and private citizens too should be arrested only after an inquiry under the law.
- It further ruled that preliminary inquiry in a case under the Act would be conducted by the Deputy Superintendent of Police to ensure the allegations are not frivolous.
- The amendment in the law was a bid to protect honest public servants discharging bona fide duties from being blackmailed with false cases under the Act.

### **What's the concern now?**

Dalit organisations and some political parties fear the dilution of the provisions of the Act might lead to increase in violence against Dalits.

### **About SC/ST Act:**

The Scheduled Castes and Tribes (Prevention of Atrocities) Act is popularly known as POA, the SC/ST Act, the Prevention of Atrocities Act, or simply the Atrocities Act. The SC/ST Act was enacted on September 9, 1989. The rules for the Act were notified on March 31, 1995.

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- The SC/ST Act lists 22 offences relating to various patterns or behaviours inflicting criminal offences and breaking the self-respect and esteem of the scheduled castes and tribes community. This includes denial of economic, democratic and social rights, discrimination, exploitation and abuse of the legal process.
- According to the SC/ST Act, the protection is provided from social disabilities such as denial of access to certain places and to use customary passage, personal atrocities like forceful drinking or eating of inedible food sexual exploitation, injury etc, atrocities affecting properties, malicious prosecution, political disabilities and economic exploitation.
- For speedy trial, Section 14 of the SC/ST Act provides for a Court of Session to be a Special Court to try offences under this Act in each district.
- The prime objective of the SC/ST Act is to deliver justice to marginalised through proactive efforts, giving them a life of dignity, self-esteem and a life without fear, violence or suppression from the dominant castes.

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### **NIRF INDIA RANKINGS 2018**

The National Institutional Ranking Framework (NIRF) India Rankings 2018 have been announced. NIRF Indian Rankings 2018 was the third edition of the rankings that were introduced in the year 2016.

#### **What is NIRF?**

The National Institutional Ranking Framework (NIRF) outlines a methodology to rank institutions across the country.

- The parameters for ranking broadly cover “Teaching, Learning and Resources,” “Research and Professional Practices,” “Graduation Outcomes,” “Outreach and Inclusivity,” and “Perception”.
- The 2018 rankings include nine different categories-overall, universities, engineering, colleges, management, pharmacy, medical, architecture, and law. Out of which sections like medical, architecture and law have been introduced this year.

#### **Performance of various institutions:**

- The Indian Institute of Science in Bengaluru and Delhi’s Miranda House are India’s best university and college this year.



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- All India Institute of Medical Sciences (AIIMS) Delhi, Nalsar University of Law in Hyderabad and Indian Institute of Technology in Kharagpur ranked number 1 in their respective categories.
- Indian Institute of Technology (IIT) Madras was declared the best engineering college.
- Delhi University's Miranda House topped the college category this year as well.
- Indian Institute of Management (IIM) Ahmedabad occupied the top position among management institutions this year also.

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### **Significance of NIRF:**

Ranking promotes competition among the Universities and drive them to strive for excellence. The rankings assume significance as performance of institutions has been linked with "Institutions of Eminence" scheme.

### **PROTECTION OF HUMAN RIGHTS (AMENDMENTS) BILL, 2018**

The Union Cabinet has given its approval to the Protection of Human Rights (Amendments) Bill, 2018 for better protection and promotion of human rights in the country.

### **Salient Features of the Bill:**

It proposes to include "National Commission for Protection of Child Rights" as deemed Member of the Commission;

- It proposes to add a woman Member in the composition of the Commission;
- It proposes to enlarge the scope of eligibility and scope of selection of Chairperson, National Human Rights Commission as well as the State Human Rights Commission; and
- It proposes to incorporate a mechanism to look after the cases of human rights violation in the Union Territories.
- It proposes to amend the term of office of Chairperson and Members of National Human Rights Commission and State Human Rights Commission to make it in consonance with the terms of Chairperson and Members of other Commissions.

### **Benefits:**

The Amendment will strengthen the Human Rights Institutions of India further for effective discharge of their mandates, roles and responsibilities. Moreover, the amended Act will be in perfect sync with

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the agreed global standards and benchmarks towards ensuring the rights relating to life, liberty, equality and dignity of the individual in the country.

**Backgrounder:**

The amendment to the Protection of Human Rights Act, 1993 will make National Human Rights Commission (NHRC) and State Human Rights Commission (SHRC) more compliant with the Paris Principle concerning its autonomy, independence, pluralism and wide-ranging functions in order to effectively protect and promote human rights.

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**NCLT**

The government is planning to have more benches of the National Company Law Tribunal on the basis of case load, amid rising number of insolvency cases coming up before the NCLT.

**Backgrounder:**

Currently, there are 11 NCLT benches in different parts of the country, including two in the national capital.

**About National Company Law Tribunal:**

National Company Law Tribunal (NCLT) is a quasi-judicial body that will govern the companies in India. It was established under the Companies Act, 2013 and is a successor body of the Company Law Board.

**Powers:** NCLT will have the same powers as assigned to the erstwhile Company Law Board (which are mostly related to dealing with oppression and mismanagement), Board for Industrial and Financial Reconstruction (BIFR)(revival of sick companies) and powers related to winding up of companies (which was available only with the High Courts).

**Backgrounder:** The setting up of NCLT as a specialized institution for corporate justice is based on the recommendations of the Justice Eradi Committee on Law Relating to Insolvency and Winding up of Companies.

**WELFARE SCHEMES AND DEVELOPMENTAL GROUPS**

**A GAME-CHANGER FOR HIGHER EDUCATION**

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In the Union Budget for the financial year 2018-19, Education sector has witnessed an increase of almost 4% in terms of funds allocation. The Union Cabinet has taken a decision recently to give due importance to the Rashtriya Uchchar Shiksha Abhiyan (RUSA), a centrally sponsored scheme launched in 2013 to provide strategic funding to eligible State higher educational institutions.

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### **What is the reason behind launching RUSA?**

In India, [Sarva Shiksha Abhiyan \(SSA\)](#) scheme was launched in 2001 for [elementary education](#) and [Rashtriya Madhyamik Shiksha Abhiyan \(RMSA\)](#) was launched in 2009 for [secondary education](#). These schemes produced great results in the educational developments. For higher education, [University Grants Commission \(UGC\)](#) has provided funds which are quite adequate for centrally funded universities and colleges. However, India is estimated to have over 800 universities (over 40,000 colleges are affiliated to them). About 94% of students of higher education study in 369 State universities.

Today about 150 Centrally-funded institutions (less than 6% of students study in them) — get almost the entire funding by the Ministry of Human Resource Development (MHRD). Thus, a larger number of higher institutes run by state governments, which are limited in their own management, are not provided with sufficient financial support to enhance their facilities for educational reforms.

The University Grant Commission's system of direct releases to State institutions which bypasses State governments also leads to their sense of alienation. It was to address these critical concerns that the MHRD launched RUSA. The reforms initiated under the RUSA push for greater accountability and autonomy of state institutions.

### **What is RUSA?**

Rashtriya Uchchar Shiksha Abhiyan (RUSA) is a Centrally Sponsored Scheme (CSS), launched in 2013 aims at providing strategic funding to eligible state higher educational institutions. The central funding is in the ratio of 60:40 for general category States, 90:10 for special category states and 100% for union territories.

Funding under RUSA is provided by the central Ministry of Human Resource Development directly to the state and UT governments. From the state/UT budget the funds are disbursed to individual institutions.

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State higher education councils (SHEC) will have to undertake planning and evaluation,

The scheme is largely based on the conditional release of funds linked to reforms in the key areas of governance, learning-teaching outcomes, reaching out to the unreached and infrastructure support.

**What are the objectives?**

Unlike other schemes, under RUSA, States and institutions have to give an undertaking expressing their willingness to the idea of reform and agreeing to meet the States' share of the cost. RUSA is a process-driven scheme. Its design and conceptualisation were finalised through extensive consultations with all key stakeholders, especially State governments. All States except a Union Territory (Lakshadweep) are a part of RUSA now.

Objectives of RUSA are to;

1. Improve the overall quality of state institutions by ensuring conformity to prescribed standards.
2. Bring in transformative reforms in the state higher education system by facilitating planning and monitoring at the state level
3. Promote autonomy in State Universities and to improve governance in institutions.
4. Ensure reforms in the affiliation, academic and examination systems.
5. Reduction in the number of colleges affiliated per university by creating cluster universities and promoting autonomous colleges.
6. Ensure adequate availability of quality faculty in all higher educational institutions
7. Create an enabling atmosphere to research and innovations.
8. Correct regional imbalances in access to higher education
9. capacity-building of faculty and selecting teachers in a transparent manner
10. Involving academics of repute and distinction in decision-making processes.

**What kind of evaluation system is in place for funding under RUSA?**

RUSA began with a modest allocation of ₹500 crore, but over time has seen its resource allocation being increased. For the current year, ₹1,300 crore has been provided. This funding is conditional to performance. So it is critical to have a robust monitoring and evaluation system in place.

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In this regard, geo-tagging, introduction of a public financial management system, a fund tracker and reform tracker system and regular video conferences have proved effective tools, since 2015. Governance reform is central to the scheme. In order to avoid arbitrariness, a State has to also give its commitment to creating a search-cum-select committee in the selection of vice-chancellors. An important precondition is the filling up of faculty positions.

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**What is the visible change after RUSA was introduced?**

An independent performance review of the scheme was done by IIT Bombay in 2017. It concluded that the funding linked to reforms has had a visible impact on higher education. When RUSA began, the gross enrolment ratio (GER) was 19.4%, faculty vacancies were at a shockingly high level of 60%, and a large number of universities were suffered with a teacher-student ratio of 1:24.

Today, the GER is 25.2%, faculty vacancies are down to 35% and the teacher-student ratio is now 1:20. Several universities in Karnataka, Rajasthan, Uttar Pradesh and Bihar have been right-sized and critical governance reforms. Merit-based appointments of vice-chancellors in Odisha, Goa, Jharkhand and Tamil Nadu are visible. There has been an improvement in the number of institutions accredited and their scores.

**In conclusion**

RUSA can prove be a real game changer for higher education in the country. With the assistance under RUSA Scheme there is an increase in the Gross Enrolment Ratio [G.E.R.], quality, access and equity in higher education. It has reprioritised the country's needs from funding just a few premier institutions to reaching out to institutions at the bottom of the pyramid.

It has also changed the way regulators need to function. However its litmus test will be in how impartially the scheme is administered by the MHRD and the degree to which State governments allow the SHEC to function.

**POSHAN ABHIYAAN**

The annual targets set under POSHAN Abhiyaan beginning 2017-18 are as under:

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**Targets:**

- Prevent and reduce stunting in children (0-6years): By 6% @ 2% p.a.
- Prevent and reduce under-nutrition (underweight prevalence) in children (0-6 years): By 6% @ 2% p.a.
- Reduce the prevalence of anemia among young Children(6-59 months): By 9% @ 3% p.a.
- Reduce the prevalence of anemia among Women and Adolescent Girls in the age group of 15-49 years: By 9% @ 3% p.a.
- Reduce Low Birth Weight (LBW): By 6% @ 2% p.a.

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**About POSHAN Abhiyaan:**

POSHAN Abhiyaan was launched on International Women's day (March 8) in 2018 to boost nutrition among children and women.

- The Abhiyaan targets to reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively.
- The target of the mission is to bring down stunting among children in the age group 0-6 years from 38.4% to 25% by 2022.

**MAHILA SHAKTI KENDRA SCHEME**

Government of India is implementing Mahila Shakti Kendra scheme to empower rural women through community participation. The scheme is envisaged to work at various levels, and at the National level (domain based knowledge support) and State level (State Resource Centre for Women) technical support to the respective governments on issues related to women is provided.

**About Mahila Shakti Kendra:**

It is envisioned as a one-stop convergence support service for empowering rural women with opportunities for skill development, employment, digital literacy, health and nutrition.

It will aim to improve declining child sex ratio, ensure survival and protection of the girl child, ensuring her education and empowering her to fulfil her potential. It will provide an interface for rural women to approach the government for getting their entitlements and for empowering them through training and capacity building.

At the national level, the Mahila Shakti Kendra will provide domain-based knowledge support while at the state level, it will cater to the State

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Resource Centre for Women that will provide technical support to the respective government on issues related to women, the district and block level centres, and will provide support to the PMMSK and also give a foothold to Beti Bachao, Beti Padhao in 640 districts.

### **SWADHAR GREH SCHEME**

Recently released government data shows that there are 559 Swadhar Greh presently functional in the country with 17231 beneficiaries. Swadhar Greh is a DBT compliant scheme.

#### **About Swadhar Greh Scheme:**

The Swadhar scheme was launched by the Union Ministry of Women and Child Development in 2002 for rehabilitation of women in difficult circumstances.

- The scheme provides shelter, food, clothing and care to the marginalized women/girls who are in need.
- The beneficiaries include widows deserted by their families and relatives, women prisoners released from jail and without family support, women survivors of natural disasters, women victims of terrorist/extremist violence etc.

#### **Implementation of the scheme:**

The State Governments/UT Administration invite applications from eligible organizations and the proposals which fulfil the norms are placed before a Project Sanctioning Committee (PSC) chaired by Secretary(WCD) of the State/UT concerned.

As per guidelines of the Swadhar Greh Scheme, to seek financial assistance the agency should meet following requirements:

- The agency should be either recognized by State/UT under existing law or should be well known with the experience or working in the field for at least 3 years and its work should be reported satisfactory by the State Govt./UT Administration concerned.
- It should ordinarily have been engaged in the field of women's welfare/social welfare for a minimum period of two years.
- Its financial position should be sound.
- It should have facilities, resources, experience and personnel to undertake the management of such project.
- It should run Swadhar Greh on a no-profit basis.
- It should have facilities like computers, internet connection etc at Swadhar Greh.

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### **PRADHAN MANTRI MATRU VANDANA YOJANA (PMMVY)**

The Ministry of Women and Child Development has made total payment of Rs. 271.66 crores to beneficiaries under Pradhan Mantri Matru Vandana Yojana (PMMVY). The payment has been made to 11,47,386 beneficiaries across the country.

#### **About PMMVY:**

Pradhan Mantri Matritva Vandana Yojana (PMMVY) is a maternity benefit rechristened from erstwhile Indira Gandhi Matritva Sahyog Yojana (IGMSY). The IGMSY was launched in 2010. The scheme is a conditional cash transfer scheme for pregnant and lactating women of 19 years of age or above for first two live births.

**Exceptions:** The maternity benefits under Pradhan Mantri Matru Vandana Yojana (PMMVY) are available to all Pregnant Women & Lactating Mothers (PW&LM) except those in regular employment with the Central Government or State Government or Public Sector Undertaking or those who are in receipt of similar benefits under any law for the time being in force.

**Funding:** The scheme is a Centrally Sponsored Scheme under which cost sharing ratio between the Centre and the States & UTs with Legislature is 60:40 while for North-Eastern States & three Himalayan States; it is 90:10. It is 100% Central assistance for Union Territories without Legislature.

## **INDIA AND ITS INTERNATIONAL RELATIONS**

### **TIME TO REACH OUT ACROSS THE BORDER**

Islamabad's decision to send High Commissioner back to India just in time to host the Pakistan National Day reception in New Delhi, and New Delhi's decision to send the Minister of State for Agriculture and Farmers' Welfare to attend the reception indicate that good sense may have prevailed on both sides.

Since the 19th of this month, India and Pakistan have not fired at each other across the border in Jammu and Kashmir barring one exception, a welcome calm after several weeks of continuous ceasefire violations.



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**Background: a series of incidents of harassment of diplomatic personnel**

Harassment of some of the officials was reported who had gone for shopping to the Blue Area in Islamabad and two people aggressively followed them and hurled abuses.

Indian High Commission in Islamabad has sent Note Verbale Verbal to the Ministry of Foreign Affairs of Pakistan protesting against the intimidation and harassment of its officials. Two incidents were reportedly highlighted in the note. India has asked Pakistan government to investigate the incidents related to harassment of its officials in Indian High Commission in Islamabad.

**What are the reasons behind the diplomatic stand-off between India and Pakistan?**

In gross violation of a UN Council resolution, UN-designated terrorists like Hafiz Saeed are freely operating with state support, and are being politically mainstreamed in Pakistan. India criticized Pakistan for harbouring the United Nations designated terrorists like Hafiz Saeed. In response, Islamabad raised the Kashmir issue at the UN Human Rights Council meeting in Geneva.

India is demanding for credible action by Pakistan to bring all those involved in the 2008 Mumbai attack and the 2016 Pathankot and Uri attacks to justice. Pakistan has long been attempting to mask its territorial ambitions and use of terrorism as a state policy under the guise of concern for human rights.

Another issue is that Pakistan has refused to admit Indian diplomats to the Islamabad Club in retaliation for corresponding Indian clubs charging what it considers exorbitant amounts for membership. Continuous tense atmosphere of ceasefire violations and the resultant political rhetoric is another issue. Aggressive surveillance of each other's diplomatic personnel is nothing new in the India-Pakistan context.

All these issues have led to highly undesirable acts of harassing diplomatic personnel who are protected under the 1961 Vienna Convention.

**What is 1961 Vienna Convention?**

The Vienna Convention on Diplomatic Relations of 1961 is an international [treaty](#) that defines a framework for diplomatic relations between independent countries. It specifies the privileges of a [diplomatic mission](#) that enable diplomats to perform their function without fear of

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coercion or harassment by the host country. This forms the legal basis for **diplomatic immunity**. The host country must permit and protect free communication between the diplomats of the mission and their home country.

Diplomats must not be liable to any form of arrest or detention. They are immune from civil or criminal prosecution. The family members of diplomats that are living in the host country enjoy most of the same protections as the diplomats themselves.

**What are the measures taken to contain such harassments?**

The harassment happened may be because the local authorities were not properly informed about how to deal with the High Commission staff of the 'enemy' country. Hence the two sides further decided to translate the code of conduct into Hindi and Urdu and make it available to local police stations and lower-ranking officials. However, such thoughtful measures never stopped the continuous mistreatment of the 'rival' state's diplomats.

**In conclusion**

The state of communication between India and Pakistan should be improved. Constant firing across the J&K border has aggravated the issue even deeper. Contacts between the respective High Commissions and the host governments have been reduced to 'demarches', 'summons', 'notes verbale' and stern warnings.

Given that the year ahead is critical for India and Pakistan and the bilateral relationship, the focus should be on enhancing and improving communication. Some subtle messaging from the Pakistani side about its desire to normalise ties with India is a welcome move in the right direction. Pakistan's army chief's recent and earlier statements that there is a desire on the part of the Pakistan army to normalise relations with India, something decision-makers in New Delhi should capitalise on. Pakistan should also initiate tough action against anti-India terrorist groups based in Pakistan.

**KISHANGANGA PROJECT**

Pakistan has informed the World Bank about India's completing of the Kishanganga hydropower project during the bank's "pause" period and has urged it to "recognise its responsibility" under the Indus Waters Treaty.

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**What's the issue?**

Pakistan has approached the World Bank, the mediator between the two countries of the water distribution treaty, in the past and raised issues over Kishanganga and Ratle projects in Jammu and Kashmir. It has been flagging concern over designs of India's five hydroelectricity projects – Pakal Dul (1000 MW), Ratle (850 MW), Kishanganga (330 MW), Miyar (120 MW) and Lower Kalnai (48 MW) – being built/planned in the Indus river basin, contending these violate the treaty.

**Backgrounder:**

In December 2016, the world bank had announced that it had “paused” the process for either appointing a Court of Arbitration (COA) or a neutral expert and started mediation between the two countries on how to advance and develop consensus in the light of the treaty on the mechanism for resolution of faulty designs of the two projects. Since then, the bank has arranged two rounds of talks between the two sides.

**About the projects:**

The Kishanganga Hydroelectric Plant is an \$864 million dam which is part of a run-of-the-river hydroelectric scheme that is designed to divert water from the Kishanganga River to a power plant in the Jhelum River basin. It is located 5 km north of Bandipore in Jammu and Kashmir, India and will have an installed capacity of 330 MW. Construction on the dam was temporarily halted by the Hague's Permanent Court of Arbitration in October 2011 due to Pakistan's protest of its effect on the flow of the Kishanganga River (called the Neelum River in Pakistan). In February 2013, the Hague ruled that India could divert a minimum amount of water for power generation.

The Ratle Hydroelectric Plant is a run-of-the-river hydroelectric power station currently under construction on the Chenab River, downstream of the village of Ratle in Doda district of the Indian state of Jammu and Kashmir. The project includes a 133 m (436 ft) tall gravity dam and two power stations adjacent to one another.

**INTERNATIONAL AFFAIRS**

**ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)**

Second lead-up Conference to 3rd Annual Meeting of Asian Infrastructure Investment Bank (AIIB) on 'Enhancing Port and Coastal Infrastructure' is being held Visakhapatnam. The Regional Conference is being organized by

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the Ministry of Finance, Government of India in collaboration with AIIB, CII and Research and Infrastructure System (RIS) for Developing Countries.

The panel discusses various issues relating to trade promotion through sea route, building-up robust port & coastal infrastructure and revising & relaxing maritime regulatory issues to promote blue economy in India.

### **What is AIIB?**

Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank with a mission to improve social and economic outcomes in Asia and beyond.

- It is headquartered in Beijing.
- It commenced operations in January 2016 and has now grown to 84 approved members from around the world.
- By investing in sustainable infrastructure and other productive sectors today, it aims to connect people, services and markets that over time will impact the lives of billions and build a better future.

### **Significance of AIIB:**

The United Nations has addressed the launch of AIIB as having potential for “scaling up financing for sustainable development” for the concern of global economic governance. The capital of the bank is \$100 billion, equivalent to 2/3 of the capital of the Asian Development Bank and about half that of the World Bank.

## **ORGANISATION FOR THE PROHIBITION OF CHEMICAL WEAPONS (OPCW)**

The world’s chemical watchdog is meeting after a British laboratory said it had not proved that Russia manufactured a deadly nerve agent used to poison a former Russian spy.

### **About OPCW:**

The OPCW is an independent, autonomous international organisation with a working relationship with the United Nations.

- The Organisation for the Prohibition of Chemical Weapons is the implementing body of the Chemical Weapons Convention (CWC), which entered into force in 1997.

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- As of today OPCW has 192 Member States, who are working together to achieve a world free of chemical weapons.
- The organisation was awarded the 2013 Nobel Peace Prize “for its extensive efforts to eliminate chemical weapons”.

The OPCW Member States share the collective goal of preventing chemistry from ever again being used for warfare, thereby strengthening international security. To this end, the Convention contains four key provisions:

- Destroying all existing chemical weapons under international verification by the OPCW.
- Monitoring chemical industry to prevent new weapons from re-emerging.
- Providing assistance and protection to States Parties against chemical threats.
- Fostering international cooperation to strengthen implementation of the Convention and promote the peaceful use of chemistry.

The Chemical Weapons Convention prohibits:

- Developing, producing, acquiring, stockpiling, or retaining chemical weapons.
- The direct or indirect transfer of chemical weapons.
- Chemical weapons use or military preparation for use.
- Assisting, encouraging, or inducing other states to engage in CWC-prohibited activity.
- The use of riot control agents “as a method of warfare.”

### **UN DISARMAMENT COMMISSION**

India has voiced opposition to the “weaponization” of outer space, saying it should not become an area of conflict while calling for collective efforts to strengthen safety and security of the space-based assets. India voiced its concerns in the recently held UN Disarmament Commission (UNDC) session.

#### **About UNDC:**

The United Nations Disarmament Commission (UNDC) is a deliberative body and a subsidiary organ of the UN General Assembly which is mandated to consider and make recommendations on various disarmament related issues and to follow up the relevant decisions and

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recommendations of the special sessions devoted to disarmament held so far.

- The Disarmament Commission was re-established at the first Special Session of the General Assembly devoted to Disarmament in 1978 to succeed an earlier Disarmament Commission, which ceased to convene after 1965.
- Since 1978, the Disarmament Commission has dealt with numerous disarmament related questions, both nuclear and conventional, and has submitted guidelines and principles on various subject items, including guidelines for appropriate types of confidence-building measures, guidelines and recommendations for regional approaches to disarmament within the context of global security, and guidelines and recommendations for objective information on military matters.

**Significance of UNDC:**

At a time of growing mistrust and rising international tensions as well as numerous challenges to both the disarmament agenda and the disarmament machinery, the role of the UNDC as a platform for dialogue and cooperation assumes a greater significance.

**INTERNATIONAL ENERGY FORUM**

India is hosting the 16th International Energy Forum (IEF) Ministerial Meeting in New Delhi.

**About the IEF Ministerial meeting:**

- The IEF Ministerial meetings are informal dialogues, at both the political and technical levels, aimed to improve policy and investment decisions, and through increased knowledge and experience sharing.
- The biennial IEF Ministerial Meetings are the world's largest gathering of Energy Ministers who engage in a dialogue on global energy issues.

**About IEF:**

The International Energy Forum (IEF) is an inter-governmental arrangement set up in 1991. It is based in Riyadh.

**Functions:** It serves as a neutral facilitator of informal, open, informed and continuing global energy dialogue among its members comprising of energy producing and energy consuming states, including transit countries.

**Members:** There are 72 member countries of IEF, including India, covering all six continents, which are signatories to the Charter of the IEF. Its

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membership accounts for 90% of global supply and demand for oil and gas.

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## **GENERAL STUDIES-3**

### **INDIAN ECONOMY**

#### **NATIONAL INVESTMENT AND INFRASTRUCTURE FUND (NIIF)**

The government's National Investment and Infrastructure Fund (NIIF) is in talks with private equity firm Everstone Group for a tie-up to manage its Green Growth Equity Fund (GGEF).

**About GGEF:** The Green Growth Equity Fund will be the second investment platform to be set up by NIIF.

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- GGEF, which will invest in renewable energy assets, is a joint venture between NIIF and the UK government.
- GGEF would be managed by a third-party investment manager, selected by NIIF Limited and the UK government through an efficient and robust screening and selection process.

### **About NIIF:**

- NIIF was set up in 2015 as an investment vehicle for funding commercially viable greenfield, brownfield and stalled projects in the infrastructure sector.
- NIIF will invest in areas such as energy, transportation, housing, water, waste management and other infrastructure-related sectors in India.
- The corpus of the fund is proposed to be around Rs40,000 crore, with the government investing 49% and the rest to be raised from third-party investors such as sovereign wealth funds, insurance and pension funds, endowments etc.
- NIIF's strategy includes anchoring equity, quasi-equity and debt funds in partnership with investors targeting investments across the relevant sectors in India.

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## **AGRICULTURE AND CROPPING PATTERNS**

### **A PERFECT STORM IN THE COTTON FIELD**

Recently India's agriculture ministry has decided to reduce royalties paid by Indian seed companies to Monsanto for its genetically modified (GM) cotton by 20.4%. Cutting Monsanto's royalties, the government also lowered the prices of GM cotton seeds by 7.5%. In February, the Competition Commission of India, decided to probe into anti-competitive practices by Monsanto.

At the centre of all this is the pink bollworm infestation plaguing cotton farmers. In the wake of the pink bollworm crisis, the industry wants to go back to BG-I (Bollgard I) — the original version of Bt seeds introduced by Monsanto.

### **Why does industry want to go back to BG-1?**

Monsanto entered the Indian market in 2002 with BG-1 variety of the genetically modified seeds. Monsanto's seeds are sold through domestic manufacturers. Though developed by Monsanto, BG-1 variety is not



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patented. By reverting to it, Indian seed companies will no longer have to pay any fee to Monsanto, which introduced genetically modified cotton seeds in the country.

Monsanto introduced BG-II variety, which has two genes with traits of resistance against the bollworm. This extra gene (Cry2Ab) is supposed to have resistance against pink bollworm. But the gene has failed. So, it rather makes business sense to revert to BG-I. It has a single gene Cry1Ac, which is still effective against American bollworm, another major pest attacking cotton. The seed can be made without paying any technology fee to Monsanto.

### **Who is 'Monsanto'?**

Monsanto is a multinational agricultural biotechnology corporation. Monsanto is the largest producer of genetically engineered (GE) seeds (Eg: Bt Cotton).

These seeds prevent farmers from re-planting seeds throughout the seasons by producing a sterile seed, which is unable to reproduce. These are called as terminating seeds. This forces the farmer to turn to commercial seeds, profiting the large corporations. Those who can't afford to replace seeds seasonally especially poor farmers are greatly impacted by the terminator seed.

Monsanto asks farmers to sign an agreement when they buy the seeds to only use them once. The resulting crop can be sold for things like feed or oil, not to create another generation of seeds.

### **What is Bt (Bacillus Thuringiensis)?**

Bacillus thuringiensis (Bt) is a bacterium that occurs naturally in the soil and produces proteins that kill certain insects. Through biotechnology, scientists can use these naturally occurring Bt proteins to develop insect-protected crops that protect against insect damage and destruction.

When targeted insects eat the plant containing the protein, they ultimately die; but impact of Bt on humans and other animals is still being questioned.

### **What is that unique issue with BG II in India?**

China still successfully controls pink bollworm with first-generation Bt cotton. The U.S. and Australia are moving on to third-generation BG-3

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without having faced this problem. The reasons for India to suffer this misfortune are that – The pink bollworm grew resistant because India restricted itself to cultivating long-duration hybrids since the introduction of Bt cotton in 2002.

Hybrids are crosses between two crops that often see higher yields than their parents. All other Bt cotton-growing countries mainly grow open-pollinated cotton varieties rather than hybrids. When Monsanto licensed its BG and BG-2 traits to Indian seed companies, the agreement restricted the introduction of these traits to hybrids only.

Because in India intellectual property laws have not prevented its farmers from either saving or selling seeds. In the U.S., where plant varieties are patented, the patented seeds cannot even be reused. Due to lack of such protections, several seed companies in India prefer hybrids because unlike open-pollinated varieties, hybrids lose their genetic stability when their seeds are replanted. This compels farmers to repurchase seeds each year, protecting corporate revenues.

Hybrids seeds are expensive and they are also bigger and bushier. This will force farmers to cultivate them at low densities. So to make up for the low densities, Indian farmers grow them longer so that they produce enough cotton. The pest does its most damage in the latter half of the cotton-growing season. So, the long duration of Indian cotton crops allows this pest to thrive and evolve resistance more quickly than it can for short-duration crops.

## **INDUSTRY, INFRASTRUCTURE AND INVESTMENT**

### **INDIA PIPS JAPAN, BECOMES SECOND LARGEST MANUFACTURER OF CRUDE STEEL**

India has overtaken Japan to become the world's second largest producer of crude steel in February. Growth is attributed to Centre's steps to curb imports, 'Make in India' among others.

***Key facts:*** At present, China is the largest producer of crude steel in the world, accounting for more than 50% of the production.

### **CHAR DHAM PROJECT**

Ministry of road, transport and highway (MORTH) in their affidavit submitted recently before the National Green Tribunal(NGT) in matter of

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Char Dham widening road in Uttarakhand stated that in all the total 53 projects/stretches of Char Dham, none is above 100 km which is why no environmental clearance was obtained.

**Backgrounder:**

Stretches upto 100 km are exempted from environmental clearance under Environmental Clearance Notification.

**What's the issue?**

A petition was filed which said that the entire project of 900 km was misleadingly fragmented into segments which are actually continuous stretches of five national highway to avoid environmental clearance. It stated that the criteria of Cumulative Impact Assessment and carrying capacity study must be followed for Himalayan terrain while considering any infrastructural projects.

**Chardham project:**

The project involves developing and widening 900-km of national highways connecting the holy Hindu pilgrimage sites of; Badrinath, Kedarnath, Gangotri, and Yamunotri at an estimated cost of Rs.12,000 crores. The roads will be widened from 12m to 24m and the project will involve construction of tunnels, bypasses, bridges, subways and viaducts.

**A SOLAR GEAR SHIFT**

The 2018 Economic Survey identifies renewable energy as a champion sector under the Make in India 2.0 programme. India currently meets almost 90% of its annual requirement of solar panels through imports which affects the growth of a nascent domestic solar manufacturing sector. Policy support for the solar sector is increasingly focussed on domestic manufacturing. So the question that warrants examination is whether the policy interventions send right signals to an already uncertain solar sector and our renewable energy ambitions on track.

**The objective of National Solar Mission**

National Solar Mission is one of the eight key National Missions of India's National Action Plan on Climate Change (NAPCC). The objective of the National Solar Mission is to establish India as a global leader in solar energy, by creating the policy conditions for its development across the

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country. The Mission has set the ambitious target of deploying 100GW of grid connected solar power by 2022.

The target will comprise of 40 GW Rooftop and 60 GW through Large and Medium Scale Grid Connected Solar Power Projects. The mission is aimed at reducing the cost of solar power generation in the country through long term policy; large scale deployment goals and aggressive R&D.

### **Challenges in Solar energy sector**

Some of the major problems faced by the industry are –

- Commercial banks in India constitute major source of financing for infrastructure. But these banks provide loan at a rate much higher than in the developed nations.
- Availability of land is also a big impediment for this sector. In India generally land is segmented and records might not be available.
- Evacuation systems for transmitting the electricity generated in the solar power plant are still fully not equipped.
- Import of cheaper solar cell panels is a major cause of worry.
- India and the US clashed in their trade dispute over solar cells and solar modules at WTO.

### **Is implementing trade remedies a solution?**

Implementing trade remedies that have anti-competition implications have short term benefits. Two large solar energy markets, India and the United States are considering the imposition of safeguards duty on solar panels. In such a scenario, Trade remedies are attractive because they create tangible short-term benefits such as job creation, reduction in trade deficit, and higher local tax collection.

However, such a move would also result in higher tariffs and make solar power less attractive for the already financially strained sector. The more than 40% spike in solar electricity prices would be accompanied by diplomatic tensions that follow the implementation of such measures. It will encourage other major economies to retaliate with their own protectionist measures.

### **Is it vital for India to remain compliant with the global trade regime?**

Previous measures such as the domestic content requirement (DCR) to appease the concerns of the domestic solar manufacturers were challenged and overturned at the World Trade Organisation (WTO).

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The DCR scheme did not impose any restrictions on imported sources and only sought to secure an assured market for domestically manufactured panels. Other countries opposed the scheme as they felt that it was discriminatory in nature against foreign solar cell suppliers.

A draft policy (2017) aimed at promoting domestic solar manufacturing through a proposed 12,000 MW DCR component may evoke similar opposition at the WTO.

Prioritising domestic goals without complying with international trade rules may affect the much-needed stakeholder confidence required to achieve India's clean energy target. Resolution of inter-ministerial rift is the need of the hour India's solar sector is currently caught in inter-ministerial cross-fire.

The severity of the issue is evident in the power given to both the Ministry of Finance (MoF) and the Ministry of Commerce and Industry (MoCI) to implement trade remedies like safeguard duties and anti-dumping duties. Further, the Ministry of New and Renewable Energy (MNRE) has been grappling with issues posed by the MoF regarding the re-classification of solar panels as electrical motors imposing additional duties and cesses on importers.

An inter-ministerial committee headed by the MNRE must be constituted to coordinate moves among the MoF, the MoCI, the Ministry of Power, and the Central and State Electricity Regulatory Commissions.

### **In conclusion**

Developers and manufacturers need to voice their needs clearly and respond to policy implications clearly. The industry needs one unified voice representing the key concerns of each stakeholder-category, without ignoring the broader interests of the sector. India will need a comprehensive strategy on issues such as effective sourcing of critical minerals and investment in R&D.

Innovative Financing measures such as clean energy fund, generation based incentive linked loan repayment and green bonds could be one solution to overcome the financial needs of this sector.

## **SCIENCE AND TECHNOLOGY**

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### **POINT NEMO**

Scientists were initially planning to push the Tiangong-1 satellite to Point Nemo. However, they could not do so as they lost control of it. China's defunct Tiangong-1 space lab mostly broke up on re-entering the Earth's atmosphere above the South Pacific.

#### **Point Nemo:**

Point Nemo, or "ocean point of inaccessibility," is a region in the South Pacific that is the loneliest place on the planet. It is used as a graveyard for controlled re-entries and a place where space junk can be dropped safely.

It is about 2,688 kilometers from the nearest land – Pitcairn Islands – which lies to the north of this point. Also, Motu Nui — one of the Easter Islands — lies to the northeast and Maher Island, part of Antarctica, to the south.

#### **Tiangong 1**

The Tiangong 1 module is China's first spacecraft designed for orbital docking tests and space research. It's name translates to "Heavenly Palace" in English. The Tiangong 1 space lab intended to serve as a space station module prototype for China, which is the third country (after Russia and the United States) to develop the capability to launch astronauts into space and return them safely to Earth.

### **ADVANCED SUPERSONIC PARACHUTE INFLATION RESEARCH EXPERIMENT (ASPIRE)**

A supersonic parachute that will help NASA missions to land on Mars, was successfully launched into the sky during a key test designed to mimic the conditions of entering the red planet. The Advanced Supersonic Parachute Inflation Research Experiment (ASPIRE) was launched aboard a sounding rocket from NASA's Wallops Flight Facility in the US.

#### **Backgrounder:**

An ambitious NASA Mars rover mission set to launch in 2020 will rely on a special parachute to slow the spacecraft down as it enters the Martian atmosphere at over 12,000 mph (5.4 kilometers per second). The Mars 2020 mission will seek signs of ancient Martian life by investigating evidence in place and by caching drilled samples of Martian rocks for potential future return to Earth.

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### **ICARUS- FARTHEST STAR**

NASA's Hubble Space Telescope has discovered the farthest individual star ever seen — an enormous blue stellar body nicknamed Icarus located over halfway across the universe.

#### **Details**

- The star, harboured in a very distant spiral galaxy, is so far away that its light has taken nine billion years to reach Earth. It appears to us as it did when the universe was about 30% of its current age.
- The star, located in a distant spiral galaxy, is at least 100 times further away than any other star previously observed, with the exception of things like the huge supernova explosions that mark the death of certain stars.

#### **Gravitational lensing:**

The scientists took advantage of a phenomenon called "gravitational lensing" to spot the star. It involves the bending of light by massive galaxy clusters in the line of sight, which magnifies more distant celestial objects. This makes dim, faraway objects that otherwise would be undetectable, like an individual star, visible.

#### **Significance of this discovery:**

These observations by astronomers from NASA provide a rare and detailed look at how stars evolve, especially the most luminous stars. Detecting the amplification of a single and pinpoint background star has provided a unique opportunity to test the nature of dark matter in the cluster.

#### **About the Hubble Space Telescope:**

- The Hubble Space Telescope is a large telescope in space. NASA launched Hubble in 1990.
- It was built by the United States space agency NASA, with contributions from the European Space Agency.
- Hubble is the only telescope designed to be serviced in space by astronauts.
- Expanding the frontiers of the visible Universe, the Hubble Space Telescope looks deep into space with cameras that can see across the entire optical spectrum from infrared to ultraviolet.

### **OXYTOCIN**

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The Union government has banned imports of the hormone oxytocin to stop its misuse in the livestock industry, where activists say it causes hormonal imbalances and shortens the lives of milch animals.

- The government has also asked customs officials to step up vigilance against those likely to try and smuggle oxytocin into India.
- The government has decided to rely on domestic production to satisfy requirements of the hormone.

### **Backgrounder:**

A panel of top drug experts had recommended an import ban in February. It also recommended that sale be limited to registered government hospitals and clinics, a bar code system used on all forms of the drug to ensure tracking and prevent abuse.

### **About Oxytocin:**

- Oxytocin has also been dubbed the hug hormone, cuddle chemical, moral molecule, and the bliss hormone due to its effects on behavior, including its role in love and in female reproductive biological functions in reproduction.
- Oxytocin is a hormone that is made in the brain, in the hypothalamus. It is transported to, and secreted by, the pituitary gland, which is located at the base of the brain.
- It acts both as a hormone and as a brain neurotransmitter.
- The release of oxytocin by the pituitary gland acts to regulate two female reproductive functions: Childbirth and Breast-feeding.

### **Concerns:**

- The drug is used by dairy owners and farmers to boost milk production and make vegetables look bigger and fresher. But, it was found that indiscriminate use of Oxytocin in milch animals and by farmers was causing irreversible hormone damage.
- The drug's abuse in animals shortens their lives and makes them barren sooner.
- Implications to human health are humongous, from reproductive complications to hormonal imbalances.

## **PHOSPHORUS PENTOXIDE**

The government has imposed anti-dumping duty on import of Phosphorus pentoxide from China to protect the domestic manufacturers from cheap shipments.

### **Details**



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- Phosphorus Pentoxide is used as a powerful desiccant and dehydrating agent and is a useful building block and reagent in the chemical industry.
- Phosphorus pentoxide is not flammable.
- It reacts vigorously with water and water-containing substances like wood or cotton, liberates much heat and may even cause fire. It is corrosive to metal.

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### **PARKER SOLAR PROBE**

Parker Solar Probe, which is humanity's first mission to the Sun, has begun final preparations for its launch in July. After launch, it will orbit directly through the solar atmosphere – the corona – closer to the surface than any human-made object has ever gone.

#### **About the Parker solar probe:**

NASA's historic Parker Solar Probe mission will revolutionize our understanding of the sun, where changing conditions can propagate out into the solar system, affecting Earth and other worlds. Parker Solar Probe will travel through the sun's atmosphere, closer to the surface than any spacecraft before it, facing brutal heat and radiation conditions — and ultimately providing humanity with the closest-ever observations of a star.

*Journey:* In order to unlock the mysteries of the sun's atmosphere, Parker Solar Probe will use Venus' gravity during seven flybys over nearly seven years to gradually bring its orbit closer to the sun. The spacecraft will fly through the sun's atmosphere as close as 3.9 million miles to our star's surface, well within the orbit of Mercury and more than seven times closer than any spacecraft has come before.

*Goals:* The primary science goals for the mission are to trace how energy and heat move through the solar corona and to explore what accelerates the solar wind as well as solar energetic particles

Parker Solar Probe has three detailed science objectives:

- Trace the flow of energy that heats and accelerates the solar corona and solar wind.
- Determine the structure and dynamics of the plasma and magnetic fields at the sources of the solar wind.
- Explore mechanisms that accelerate and transport energetic particles.

### **Why do we study the sun and the solar wind?**

- The sun is the only star we can study up close. By studying this star we live with, we learn more about stars throughout the universe.
- The sun is a source of light and heat for life on Earth. The more we know about it, the more we can understand how life on Earth developed.
- The sun also affects Earth in less familiar ways. It is the source of the solar wind; a flow of ionized gases from the sun that streams past Earth at speeds of more than 500 km per second (a million miles per hour).
- Disturbances in the solar wind shake Earth's magnetic field and pump energy into the radiation belts, part of a set of changes in near-Earth space known as space weather.
- Space weather can change the orbits of satellites, shorten their lifetimes, or interfere with onboard electronics. The more we learn about what causes space weather – and how to predict it – the more we can protect the satellites we depend on.
- The solar wind also fills up much of the solar system, dominating the space environment far past Earth. As we send spacecraft and astronauts further and further from home, we must understand this space environment just as early seafarers needed to understand the ocean.

### **NEWLY DISCOVERED ANTIBIOTIC CLASS, ODILORHABDINS**

Researchers have discovered a new class of antibiotics- Odilorhabdins.

- Called odilorhabdins, or ODLs, the antibiotics are produced by symbiotic bacteria found in soil-dwelling nematode worms that colonise insects for food.
- The bacteria help to kill the insect, and secrete the antibiotic to keep competing bacteria away.

### **How they function?**

- ODLs act on the ribosome — the molecular machine that makes proteins cells needed to function — of bacterial cells. When bound to the ribosome, the antibiotic disrupts its ability to interpret and translate genetic code.
- When ODLs are introduced to the bacterial cells, they impact the reading ability of the ribosome and cause the ribosome to make mistakes when it creates new proteins,” said Mankin. “This miscoding corrupts the cell with flawed proteins and causes the bacterial cell to die.

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**Significance of the discovery:**

Odilorhabdins is unique and promising on two fronts: its unconventional source and its distinct way of killing bacteria, both of which suggest the compound may be effective at treating drug-resistant or hard-to-treat infections.

**Backgrounder:**

According to the World Health Organization, antibiotic resistant is one of the biggest threats to global health today and a significant contributor to longer hospital stays, higher medical costs and increased mortality.

**ENVIRONMENT**

**DELHI BECOMES FIRST CITY TO ROLL-OUT EURO VI FUEL**

New Delhi has become the first city in India to deploy Bharat Stage 6 Fuel for both petrol and diesel. two years ahead of the rest of the county. The idea behind this implementation two years ahead of the previously scheduled date of April 1, 2020, is to help battle Delhi's long-standing terminal pollution problem.

**What are BS norms?** The BS — or Bharat Stage — emission standards are norms instituted by the government to regulate the output of air pollutants from internal combustion engine equipment, including motor vehicles. India has been following the European (Euro) emission norms, though with a time-lag of five years.

**Difference between BS-IV and the new BS-VI:** The major difference in standards between the existing BS-IV and the new BS-VI auto fuel norms is the presence of sulphur. The newly introduced fuel is estimated to reduce the amount of sulphur released by 80 per cent, from 50 parts per million to 10 ppm. As per the analysts, the emission of NOx (nitrogen oxides) from diesel cars is also expected to reduce by nearly 70 per cent and 25 per cent from cars with petrol engines.

**Why is it important to upgrade these norms?**

Upgrading to stricter fuel standards helps tackle air pollution. Global automakers are betting big on India as vehicle penetration is still low here, when compared to developed countries. At the same time, cities such as Delhi are already being listed among those with the poorest air quality in the world. The national capital's recent odd-even car experiment and

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judicial activism against the registration of big diesel cars shows that governments can no longer afford to relax on this front.

With other developing countries such as China having already upgraded to the equivalent of Euro V emission norms a while ago, India has been lagging behind. The experience of countries such as China and Malaysia shows that poor air quality can be bad for business. Therefore, these reforms can put India ahead in the race for investments too.

The government could face two key challenges in implementing the decision:

- First, there are questions about the ability of oil marketing companies to quickly upgrade fuel quality from BS-III and BS-IV standards to BS-VI, which is likely to cost upwards of Rs 40,000 crore.
- Second, and more challenging, is the task of getting auto firms to make the leap. Automakers have clearly said that going to BS-VI directly would leave them with not enough time to design changes in their vehicles, considering that two critical components — diesel particulate filter and selective catalytic reduction module — would have to be adapted to India's peculiar conditions, where running speeds are much lower than in Europe or the US.

### **MANAS NATIONAL PARK**

Assam Spring Festival is being held at the Manas National Park where visitors will get to experience the state's local food, music, handloom and handicrafts. The aim of the event is to promote the local food and culture of the fringe villagers. It is an attempt to create a model of alternative livelihood through food, handloom and culture.

#### **Key facts on Manas National Park:**

- Manas National Park is a national park, UNESCO Natural World Heritage site, a Project Tiger reserve, an elephant reserve and a biosphere reserve in Assam, India.
- Located in the Himalayan foothills, it is contiguous with the Royal Manas National Park in Bhutan.
- The Manas river flows thorough the west of the park and is the main river within it. It is a major tributary of Brahmaputra river and splits into two separate rivers, the Beki and Bholkaduba as it reaches the plains.
- The Manas river also serves as an international border dividing India and Bhutan.

April 1<sup>st</sup> to April 10th

- The bedrock of the savanna area in the north of the park is made up of limestone and sandstone, whereas the grasslands in the south of the park stand on deep deposits of fine alluvium.
- The combination of Sub-Himalayan Bhabar Terai formation along with the riverine succession continuing up to Sub-Himalayan mountain forest make it one of the richest areas of biodiversity in the world.
- The park is well known for species of rare and endangered wildlife that are not found anywhere else in the world like the Assam roofed turtle, hispid hare, golden langur and pygmy hog.

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## **SECURITY CHALLENGES**

### **“DESERT TIGER 5”**

It is a joint military exercise between United Arab Emirates (UAE) and Malaysia. It is aimed at sharing expertise and enhancing joint military actions.

The drill was also aimed at raising the level of performance and combat efficiency and working together based on a strategy to improve the overall ability and combat readiness of the ground forces.

### **GAGANSHAKTI-2018**

An all encompassing coordinated and composite exercise named Gaganshakti is being conducted by the IAF.

The aim of this exercise is real time coordination, deployment and employment of Air Power in a short & intense battle scenario. During Gaganshakti IAF will exercise the entire machinery to validate its concept of operations and war waging capability.

### **WALONG TRI-JUNCTION**

Indian troops have increased their patrolling at a tri-junction of India, China and Myanmar to prevent a repeat of a Doklam-like standoff.

**Where is it?** The tri-junction is located around 50 km from Walong, India's easternmost town in Arunachal Pradesh, near the Tibet region. It is situated on the bank of Lohit river.

## **DISASTER MANAGEMENT**

April 1<sup>st</sup> to April 10th

**'CHAKRAVAT':**

Kochi along with Indian Navy is hosting multi-agency rescue exercise- Chakravat. It is for the first time that the yearly exercise is being conducted in Kochi.

It is a multi-agency humanitarian assistance and disaster relief (HADR) exercise to review the response mechanism in the event of a cyclonic storm.

**Participants:** Chakravat' meaning 'cyclone' will see participation by the three Services, the Coast Guard, State administration, State Disaster Management Authority, National Disaster Response Force, Fisheries Department, Coastal Police, and members of the fishing community.

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