



C.A From 9<sup>th</sup> September to 14<sup>th</sup> September

## **General Studies-1**

### **Bogibeel Bridge:**

#### **Why in News?**

The Brahmaputra was till 1962 the only river in India that had not been bridged along its entire length either for road or railway.

The river, more than 10 km wide in several stretches, now awaits the completion of its fourth and easternmost span — the country's longest road-rail bridge at 4.94 km — that India's defence forces and residents of the eastern half of the Northeast have been demanding for almost five decades.

#### **Significance of the Bridge:**

- The Bogibeel bridge will usher in a new era of economic development in the region, apart from strengthening national security in the border areas.
- The bridge will facilitate road and rail connectivity between the north and south banks of the Brahmaputra in the eastern part of Assam and Arunachal Pradesh.
- This is very strategic from the defence point of view, and the Army has been demanding it for years
- The bridge classification is on the higher side for movement of heavy military equipment.
- It will drastically cut time for induction of troops and logistics during a war-like situation.

#### **Concerns:**

- The Inland Water Transport (IWT) Department of Assam fears that the Bogibeel bridge will impact ferry services to a large extent.
- At present, one government vessel and 24 private boats ferry 2,500 people, 146 cars and 84 two-wheelers on an average every day

### **ICID Register of Heritage Irrigation Structures**

#### **Why in News?**

A meeting of the International Executive Council, the highest decision making body of International Commission on Irrigation and Drainage (ICID), at Saskatoon in Canada last month has accepted Telangana government's nomination of Sadarmatt anicut across



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river Godavari in Nirmal district and Pedda Cheruvu in Kamareddy district in the ICID Register of Heritage Irrigation Structures.

**Sadarmatt anicut**

- The HIS award is a deserving recognition to this irrigation facility which has provided precious water for paddy crops in its designed ayacut of 13,100 acres in present day Khanapur and Kadem mandals since its construction in 1891-92.
- The anicut, which is English word for Telugu's ana-katta, meaning a rainfall bund, was built by Nawab Iqbal-ud-Dowla who bore the title of Vicar-ul-Umrah Bahadur in 1891-92 about 50 km downstream of the Sri Ram Sagar Project (SRSP).
- Sadarmatt bund is 437.4 m long on its left flank and 23.8 m on its right flank.
- The left canal is 21.5 km long while the right canal is 10 km and the distributory is 12 km in length irrigating 5,700 acres, 3,400 acres and 4,000 acres respectively.

Pedda Cheruvu

- The Pedda Cheruvu (big tank in Telugu) located on the outskirts of this district headquarters town is spread over an area of 618 acres and was built in 1897 during the rule of Mir Mahaboob Ali Khan, the sixth Nizam of Hyderabad State.
- It has a 1.8-km-long tank bund and 145-metre weir and three sluices. Its catchment area is spread over 68.97 sq. km. and total flood flow is 8,860 cusecs.
- With a capacity of 0.175 tmcft it provides water for irrigation to over 900 acres in Kamareddy, Sarampally, Narsampally and old Rajampet.
- It also provides drinking water for residents of the area.
- Womenfolk play Bathukamma during the Navaratriotsavalu on its bund and immerse them in its waters.
- It is a picnic spot for residents of the area who come to its bund for relaxation and have a panoramic view of nature. Consequently, the Government wanted to develop it as a tourist spot by creating the necessary infrastructure.

**About International Commission on Irrigation and Drainage (ICID):**

The ICID is a Technical and Voluntary Not-for-profit, International NGO, dedicated to enhance the world-wide supply of food and fibre for all people by improving water and land management, and the productivity of irrigated and drained lands.

- The ICID By-laws have been enacted its International Executive Council for the due implementation of the provisions of the Constitution of the Commission. It is headquartered in New Delhi.



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- ICID has been involved in the global discussions leading to Agenda 21, World Water Vision, World Water Forums etc., which have become the focal point of several of its technical activities.
- In recognition of its significant contribution to the programs and objectives of International Year of Peace proclaimed by the UN General Assembly, on 15 September 1987 ICID was designated as a Peace Messenger by the UN Secretary General.

**Ancient Monuments and Archaeological Sites and Remains Act, 1958**

**Why in News?:**

Historians have vociferously opposed changes to the Ancient Monuments and Archaeological Sites and Remains Act, 1958. If the Act comes into force, they say it could have disastrous consequences for historical monuments, they fear.

**Concerns:**

- The Act proposes to allow the construction of Centre-approved public infrastructure within a 100 metre radius of Archaeological Survey of India (ASI)-protected monuments. This is worrying because this could open the way for denigration of ancient monuments in the name of development.
- The monuments which are already deteriorating due to pollution, human interference and development activities around are further put under direct threat with the proposed changes.

**The Ancient Monuments and Archaeological Sites and Remains (Amendment) Bill, 2017:**

- **Construction in 'prohibited areas':** The Act defines a 'prohibited area' as an area of 100 meters around a protected monument or area. The central government can extend the prohibited area beyond 100 meters. The Act does not permit construction in such prohibited areas, except under certain conditions. The Act also prohibits construction in 'prohibited areas' even if it is for public purposes.
- The Bill amends this provision to permit construction of public works in 'prohibited areas' for public purposes.
- **Definition of 'public works':** The Bill introduces a definition for 'public works', which includes the construction of any infrastructure that is financed and carried



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out by the central government for public purposes. This infrastructure must be necessary for public safety and security and must be based on a specific instance of danger to public safety. Also, there should be no reasonable alternative to carrying out construction in the prohibited area.

- **Procedure for seeking permission for public works:** As per the Bill, the relevant central government department, that seeks to carry out construction for public purposes in a prohibited area, should make an application to the competent authority.
- **Impact assessment of proposed public works:** The Bill empowers the National Monuments Authority to consider an impact assessment of the proposed public works in a prohibited area, including its (i) archaeological impact; (ii) visual impact; and (iii) heritage impact.
- The Authority will make a recommendation, for construction of public works to the central government, only if it is satisfied that there is no reasonable possibility of moving the construction outside the prohibited area.



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## General Studies-2

### 4<sup>th</sup> World Summit on Accreditation (WOSA-2018)

#### Context:

Union Minister for HRD ShriPrakashJavadekar Inaugurates 4th World Summit on Accreditation (WOSA-2018) at New Delhi today.

Speaking on this occasion the Minister said that 'Ratings and Rankings' both the quality hallmark for any educational institutions therefore accreditation becomes very important.

#### Background

- The National Board of Accreditation (NBA) is an autonomous organisation under Ministry of Human Resource Development.
- It is engaged in quality assurance of the programs offered by the professional and technical institutions in India through accreditation.
- NBA has been accorded Permanent Signatory Status of Washington Accord since June, 2014.
- It has adopted internationally implemented outcome based assessment and accreditation, to ensure that the graduates of the NBA accredited programs are globally competent and relevant.

#### About WOSA

World Summit on Accreditation (WOSA) is a biennial Summit organised by NBA, which provides platform to stakeholders to share their knowledge and information on accreditation.

#### WOSA 2018

- Continuing this tradition, NBA is organising WOSA 2018 from **07<sup>th</sup> to 09<sup>th</sup> September, 2018**.
- The focus of WOSA 2018 is on **"CHALLENGES AND OPPORTUNITIES IN OUTCOME BASED ACCREDITATION"**.

#### Expected Outcomes



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- The participants will gain a greater understanding of prevailing global accreditation practices.
- The educational institutions will have an opportunity to interact with industry, policy makers and accreditation agencies from the globe and learn about their perspectives.
- It will also be a unique chance for the educational institutions to develop and fortify ties with the industry.
- Industry would be able to interact with educational institutions and accrediting agencies for exchanging views on their requirements of quality manpower and accreditation parameters.
- Accreditation agencies from across the world will have a common platform to share best practices, insights and to enhance their understanding of accreditation.
- The policy makers and regulatory bodies will have an in-depth appreciation of education systems operating in different countries and their strengths and weaknesses.

**BIMSTEC military exercise**

**Why in News?**

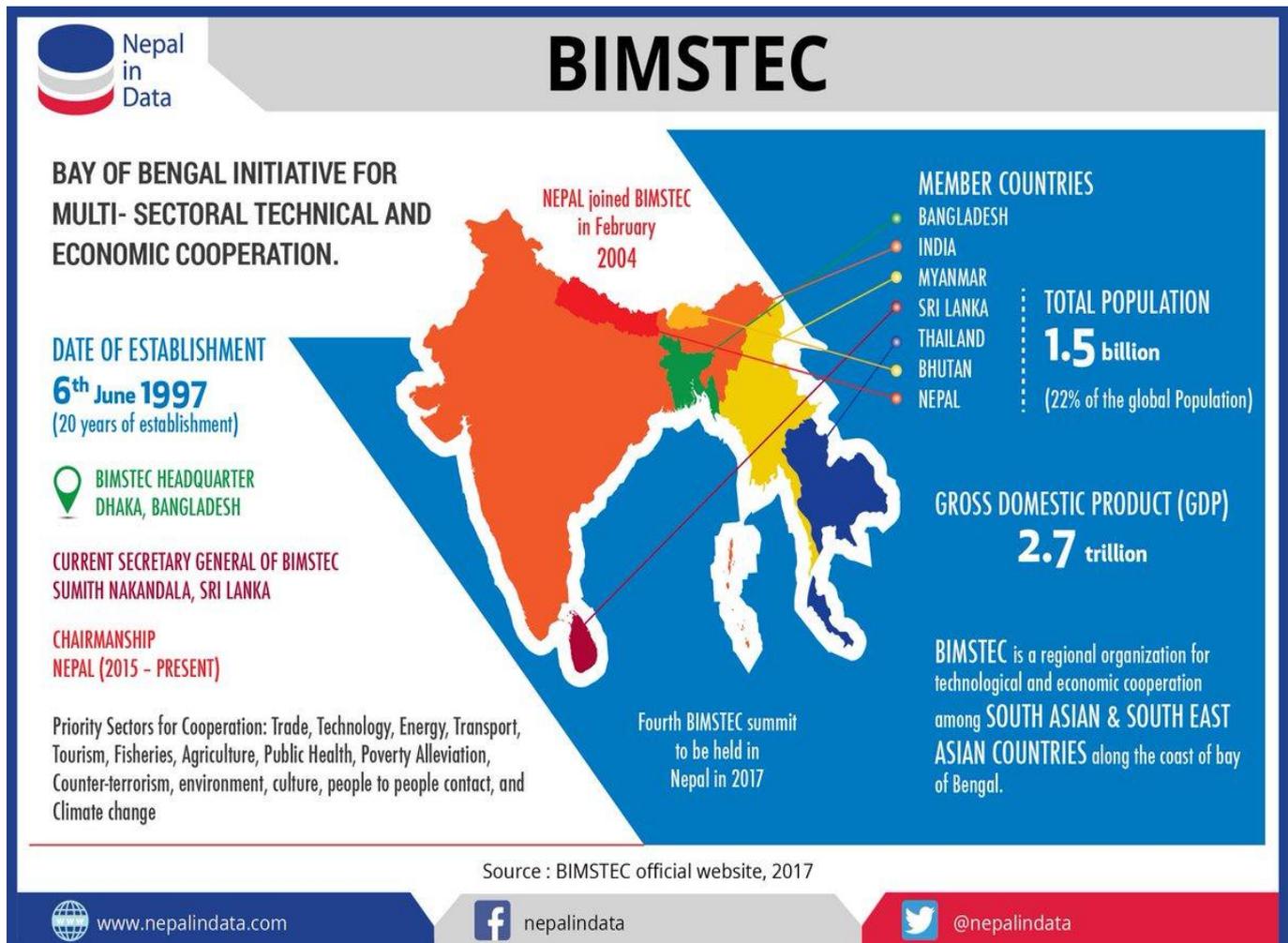
The [Nepal](#) Army has withdrawn from the first BIMSTEC military exercise to be held in India following a political row in the country over the participation in the event, a media report said on Saturday.

Prime Minister K.P. Oli asked the national defence force not to participate in the drill, compelling the Nepal Army leadership to rollback its earlier decision to take part in the first-ever military exercise of the regional grouping initiated by India.



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## About BIMSTEC:



## G20 Education Ministers and Joint Ministerial Meeting

### Why in News?

The Minister of State for Human Resource Development, Dr. Satya Pal Singh lead a high level delegation to the G-20 Education Ministers' Meeting as well as Joint Ministerial Meeting held at Mendoza, Argentina on 5<sup>th</sup> & 6<sup>th</sup> September, 2018.

It was the first ever meeting of Education Ministers in the history of G-20.

### About G-20:



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- The **G20** (or **Group of Twenty**) is an [international](#) forum for the [governments](#) and [central bank](#) governors from [Argentina](#), [Australia](#), [Brazil](#), [Canada](#), [China](#), [France](#), [Germany](#), [India](#), [Indonesia](#), [Italy](#), [Japan](#), [Mexico](#), [Russia](#), [Saudi Arabia](#), [South Africa](#), [South Korea](#), [Turkey](#), the [United Kingdom](#), the [United States](#) and the [European Union](#).
- Founded in 1999, the G20 aims to discuss policy pertaining to the promotion of international financial stability.
- It seeks to address issues that go beyond the responsibilities of any one organization.
- The G20 [heads of government](#) or [heads of state](#) have periodically conferred at summits since their initial meeting in 2008, and the group also hosts separate meetings of [finance ministers](#) and [foreign ministers](#) due to the expansion of its agenda in recent years.

**National Dairy Plan**

**Why in News?**

Minister of Agriculture and Farmers' Welfare Shri Radha Mohan Singh, at the inauguration ceremony of the seminar "Role of Technology in Doubling Dairy Farmers' Income" in Anand, Gujarat, today praised the National Dairy Development Board (NDDB) for playing a crucial role in the implementation of **National Dairy Plan (NDP)** and Dairy Processing and Infrastructure Development Fund (DIDF).

Since the beginning, the NDDB has implemented several major dairy development programs including '**Operation Flood**'. As a result, India has become self-sufficient to meet the demand of milk.



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About NDP:

## National Dairy Plan

### ➤ Genetic enhancement through AI:

- Increase number of high genetic merit bulls and import of exotic purebred bulls or equivalent embryos.
- Increasing the annual production of high quality semen to 100 million doses to improve AI coverage from 20 per cent to about 35 per cent.
- Doorstep AI delivery services

### ▪ Feed and nutrition:

- Awareness about the balanced ration
- Improve supply of certified / truthfully labelled fodder seeds.
- Conservation of green fodder through silage for use in fodder deficit areas.

### ☐ Marketing

- ☐ Strengthen existing dairy cooperatives
- ☐ Promoting Producer Companies.

What is Operation Flood?



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## OPERATION FLOOD

### ▶ OBJECTIVES:

- To create a 'flood of milk' across the country
  - To facilitate long term investment in dairying and cattle development
  - To reduce the cost of milk for consumer and to increase the share of milk price obtained by producer
  - To ensure availability of efficient personnel to manage and control every facet of the program
- ▶ The whole operation was divided into three phases

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## **Opening ceremony: INDO-MONGOLIA joint exercise Nomadic Elephant-2018**

Indo-Mongolia joint exercise Nomadic Elephant-2018, commenced today at Mongolian Armed Forces (MAF) Five Hills Training Area, Ullanbaatar, Mongolia with a brief but impressive opening ceremony.

### **About the Exercise:**

- The 12 days long joint exercise will be conducted from 10 Sep to 21 Sep 2018. Exercise Nomadic Elephant is an annual, bilateral exercise since 2006.
- It is designed to strengthen the partnership between Indian Army and Mongolian Armed Forces.
- The exercise will see them improve their tactical and technical skills in joint counter insurgency and counter terrorist operations in rural and urban scenario under United Nations mandate.
- During the exercise both sides will jointly train, plan and execute a series of well developed tactical drills for neutralisation of likely threats that may be encountered in urban warfare scenario.
- Exercise Nomadic Elephant-2018 will contribute immensely in developing mutual understanding & respect for each others military and also facilitate in tackling the world wide phenomenon of terrorism.

## **HIV/AIDS Act, 2017**

### **Why in News?**



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The Ministry of Health and Family Welfare has issued a notification for bringing the Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017 in force from 10<sup>th</sup> September, 2018.

The Act, safeguards the rights of people living with HIV and affected by HIV.

The provisions of the Act address HIV-related discrimination, strengthen the existing programme by bringing in legal accountability, and establish formal mechanisms for inquiring into complaints and redressing grievances.

#### **Salient Features of Act:**

- The Act seeks to prevent and control the spread of HIV and AIDS, prohibits discrimination against persons with HIV and AIDS.
- The Act lists various grounds on which discrimination against HIV positive persons and those living with them is prohibited.
- These include the denial, termination, discontinuation or unfair treatment with regard to:
- employment, (ii) educational establishments, (iii) health care services, (iv) residing or renting property, (v) standing for public or private office, and (vi) provision of insurance (unless based on actuarial studies).
- The requirement for HIV testing as a pre-requisite for obtaining employment or accessing health care or education is also prohibited.
- Every HIV infected or affected person below the age of 18 years has the right to reside in a shared household and enjoy the facilities of the household.
- The Act also prohibits any individual from publishing information or advocating feelings of hatred against HIV positive persons and those living with them.
- As per the provisions of the Act, every person in the care and custody of the state shall have right to HIV prevention, testing, treatment and counseling services.

#### **Curtain raiser: INDO-US joint military exercise Yudh Abhyas 2018**

##### **Why in News?**

As part of the ongoing Indo-US defence cooperation, a joint military training Exercise Yudh Abhyas 2018 is scheduled to be conducted in the foothills of Himalayas at Chaubattia in Uttarakhand from 16 September to 29 September 2018.

This will be the 14<sup>th</sup> edition of the joint military exercise hosted alternately by both countries.

##### **About the Exercise:**



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- The joint exercise Yudh Abhyas 2018 will simulate a scenario where both nations will work together in counter insurgency and counter terrorism environment in mountainous terrain under United Nation charter.
- The two week exercise will witness participation of about 350 personnel of the US Army and similar strength of the Indian Army.
- The exercise curriculum is progressively planned where the participants are initially made to get familiar with each other's organizational structure, weapons, equipment, confidence training and tactical drills.
- Subsequently, the training advances to joint tactical exercises wherein the battle drills of both the armies are coherently unleashed.

**Benefits of Exercise:**

- Both armies have vast experience in active counter insurgency & counter terrorism operations and sharing each other's tactics & drills in such diverse environment is of immense value.
- The exercise is a great step for the armies of the two democratic countries to train together and gain together from each other's rich operational experiences.
- The latest exercise will help further build interoperability between the forces of both the nations.

**Pradhan Mantri Matru Vandana Yojana**

Pradhan Mantri Matru Vandana Yojana (PMMVY) recently marked the anniversary of the launch of scheme as Matru Vandana Saptah.

National level achievement of the scheme post an year's implementation on grounds is 48.11 Lakhs of women enrollment under the scheme till September 13, 2018, out of which 37.30 Lakhs have been paid the maternity benefit.

**About PMMVY**

Pradhan Mantri Matru Vandana Yojana (PMMVY) is a Maternity Benefit Programme that is implemented in all the districts of the country in accordance with the provision of the National Food Security Act, 2013.

**Objectives**

1. Providing partial compensation for the wage loss in terms of cash incentives so that the woman can take adequate rest before and after delivery of the first living child.
2. The cash incentive provided would lead to improved health seeking behaviour amongst the Pregnant Women and Lactating Mothers (PW& LM).



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### Target beneficiaries

1. All Pregnant Women and Lactating Mothers, excluding PW&LM who are in regular employment with the Central Government or the State Governments or PSUs or those who are in receipt of similar benefits under any law for the time being in force.

### Benefits under PMMVY

- Cash incentive of Rs 5000 in three instalments i.e. first instalment of Rs 1000/- on early registration of pregnancy at the Anganwadi Centre (AWC) / approved Health facility as may be identified by the respective administering State / UT, second instalment of Rs 2000/- after six months of pregnancy on receiving at least one ante-natal check-up (ANC) and third instalment of Rs 2000/- after child birth is registered and the child has received the first cycle of BCG, OPV, DPT and Hepatitis - B, or its equivalent/ substitute.
- The eligible beneficiaries would receive the incentive given under the Janani Suraksha Yojana (JSY) for Institutional delivery and the incentive received under JSY would be accounted towards maternity benefits so that on an average a woman gets Rs 6000 / - .



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## **General Studies-3**

### **Impact of Falling Rupee:**

#### **Context:**

With the rupee recently weakening past ₹70 to a dollar and hovering about that level since, concerns over the impact of the devaluation on economic indicators are intensifying.

Here is what happens when the rupee falls:

#### **What happens to inflation?**

- One of the first visible effects of currency depreciation is the country's imports become more expensive and exports cheaper.
- The reason is simple. It takes more rupees to pay for the same quantum of imports and fewer dollars for a buyer to pay for the same quantity of exports.
- More expensive imports are likely to drive inflation upward, especially in India where input products constitute a large part of our imports.
- In addition, a depreciating rupee also impacts the oil import bill since it costs more rupees per barrel of oil, which plays its own part in pushing inflation up.



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### What happens to GDP growth?

- This is a more complex question given the number of factors that affect GDP growth.
- On the one hand, costlier inputs and the subsequent increase in the prices of finished goods should have a positive impact on GDP.
- But the consequent decrease in demand due to higher prices could nullify this.
- A depreciating rupee certainly affects the exports and imports, since exports are likely to receive a boost while imports could flag somewhat.
- It remains to be seen what impact a reduction in household consumption would have on demand, especially when the festive season is nearing.

### What does this mean for you?

- A depreciating rupee means higher prices of goods and services, costlier petrol and trips abroad turning more expensive.
- On the flip side, the domestic tourism could grow as more tourists visit India since their currency now buys more here.
- In the medium term, export-oriented industries may also create more jobs.

### Invasive Species

#### Why in News?

Last week, the Madurai Bench of the Madras High Court, hearing a public interest litigation petition seeking the removal of invasive trees from over 22,000 hectares in the Western Ghats here, directed the National Board for Wildlife to look into the issue and pass appropriate orders.

#### What are they?

- An **invasive species** is a species that is not native to a specific location (an [introduced species](#)), and that has a tendency to spread to a degree believed to cause damage to the environment, human economy or human health.
- Such invasive species may be either plants or animals and may disrupt by dominating a region, [wilderness areas](#), particular habitats, or [wildland-urban interface](#) land from loss of natural controls (such as [predators](#) or [herbivores](#)).
- The European Union defines "Invasive Alien Species" as those that are, firstly, outside their natural distribution area, and secondly, threaten [biological diversity](#).

#### Invasive Species in India:



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While invasive species of flora like eucalyptus, wattle, pine and cypress trees, as well as Lantana camara plants, are proliferating across the Nilgiris upper slopes, Prosopis juliflora, parthenium and eupatorium have spread on the biosphere's lower slopes.

Weeds like scotch broom (Cytisus scoparius) and gorse have also begun to spread profusely in habitats like Avalanche, Upper Bhavani and the Mukurthi National Park, home to the endangered Nilgiri tahr, the State animal.

### **Threats from Invasive Species:**

- Invasive species do not allow any shrub or local species of grass to grow around them.
- They grow in dense fashion, leaving little space for wildlife to pass through.
- A resin oozes from some species during the monsoon, which turns the soil acidic.
- Invasive species like Lantana spread all over an area and create a mat-like structure.
- They lead to retrogression and a change in the original vegetation in the longer run, degrading and destroying biodiversity.
- In the process, herbivores such as the Indian gaur, spotted deer and sambar do not get the required grass, shrubs and plants they feed on. If the herbivores are affected, carnivores like tigers and panthers also suffer.
- Some of the invasive trees are not deep rooted and get easily uprooted during storms and fall on roads, creating problems for users.

### **Successful Air-to-Air Refuelling of LCA Tejas**

In a significant achievement and a major step towards Final Operational Clearance (FOC) of LCA Tejas, the mid-air refuelling of 'wet contact' trial for LCA Tejas MK-1 was successfully carried out today from an Indian Air Force base. The trial was a part of the Air-to-Air refuelling flight tests conducted by IAF.

### **Advantages:**

- The Air-to-Air refuelling capability for LCA is a 'force multiplier' for the IAF, giving the aircraft the potential to stay airborne for much longer periods of time.
- The enhanced range and endurance in air is expected to provide IAF a host of options in exploiting the operational potential of the LCA as well as to participate in international exercises without having to stage through several locations enroute.



**इहोरइहव**  
**I A S A C A D E M Y**  
Your Dreams, Our Mission!

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**About the Tejas:**



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India's first indigenously designed and developed  
**LIGHT COMBAT AIRCRAFT** *Tejas*

Project first conceived and launched in 1983	Maiden test flight took place on Jan 4, 2001	Designed for air-to-air, air-to-ground and air-to-sea combat roles	Intended to replace the phased out MiG-21 fighter jets
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**Specifications**

Crew	Length	Height	Wingspan	Max speed	Engine
One	13.2 m	4.4 m	8.2 m	1.6 mach	F-404-GE-IN20
Project development cost	Unit cost	Max take-off weight			
₹ 17,269 crore	₹ 220-250 crore	13,200 kg			

KBK **Info**graphics

### Climate impact of Rice farming:

Rice farming across the world could be responsible for up to twice the level of climate impact relative to what was previously estimated, according to a study conducted in India.

### Details of Study:

- The study, published in PNAS, found that intermittently flooded rice farms can emit 45 times more nitrous oxide as compared to the maximum from continuously flooded farms that predominantly emit methane.
- According to a global analysis by Environmental Defense Fund (EDF) in the US, methane and nitrous oxide emissions from rice farms could have the same long-term warming impact as about 600 coal plants.
- The full climate impact of rice farming has been significantly underestimated because up to this point, nitrous dioxide emissions from intermittently flooded farms have not been included.
- The researchers investigated greenhouse gas emissions from rice farms across southern India.



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- They found that nitrous oxide emissions from rice can contribute up to 99 % of the total climate impact of rice cultivation at a variety of intermittently flooded farms.
- These emissions contributed substantially to [global warming](#) pollution — far more than the estimate of 10% previously suggested by multiple global rice research organizations.

**Methane emissions**

- The researchers found an inverse correlation between methane and nitrous oxide emissions from rice farming.
- Water and organic matter management techniques that reduce methane emissions can increase nitrous oxide emissions, they said.
- This, the team said, is crucial because nitrous oxide is a long-lived greenhouse gas that traps several times more heat in the atmosphere than methane over both 20 and 100-year time frames.
- Rice is a critical source of nutrition for the world's rapidly growing population, providing more calories to humans than any other food, researchers said.
- However, growing rice is also resource-intensive: rice cultivation covers 11 % of the Earth's arable land, consumes one-third of irrigation water.

**Way Forward:**

- The researchers found that carefully chosen farming techniques at individual farms reduced net greenhouse gas emissions from rice cultivation by as much as 90% by integrating shallow (mild-intermittent) flooding with co-management of nitrogen and organic matter.
- If all irrigated rice farmers only used the proposed shallow flooding instead of continuous or intense forms of intermittent flooding, estimates in the accompanying analysis shows that the rice farms with irrigation have the potential to reduce their global climate impact by 60%.

**Apsara - U Reactor**

**Why in News?**

Research reactors are the back bone of Nuclear Programme” said Dr. Homi J. Bhabha, the father of Indian Nuclear programme, in early fifties.

Subsequently “Apsara”, the first research reactor in Asia became operational in Trombay campus of Bhabha Atomic Research Centre in August 1956. After providing



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more than five decades of dedicated service to the researchers, the reactor was shut down in 2009.

### **About Apsara Nuclear reactor:**

- Apsara is the oldest of India's research reactors. The reactor was designed by the Bhabha Atomic Research Center (BARC) and built with assistance from the United Kingdom (which also provided the initial fuel supply consisting of 80% enriched uranium).
- Apsara first went critical on 4 August 1956.
- Apsara is a light water swimming pool-type reactor with a maximum power output of one megawatt thermal (MWt).
- The reactor burns enriched uranium in the form of aluminum alloyed curved plates. Fuel for the reactor is supplied under contract from the United Kingdom, provided that the fuel is safeguarded.
- The Apsara reactor is utilized for various experiments including neutron activation analysis, radiation damage studies, forensic research, neutron radiography, and shielding experiments.
- The reactor is also used for research and the production of radioisotopes.

Nearly sixty-two years after Apsara came into existence, a swimming pool type research reactor "Apsara-upgraded", of higher capacity was born

### **About Apsara upgraded:**

- The reactor, made indigenously, uses plate type dispersion fuel elements made of Low Enriched Uranium (LEU).
- By virtue of higher neutron flux, this reactor will increase indigenous production of radio-isotopes for medical application by about fifty percent and would also be extensively used for research in nuclear physics, material science and radiation shielding.
- This development has re-emphasised the capability of Indian scientists and Engineers to build, complex facilities for health care, science education and research.

### **India's first missile tracking ship**

Hindustan Shipyard Limited (HSL) is gearing up to undertake sea trials of India's first missile tracking ship by the first week of October.



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**About the Ship:**

- The keel of the ship, which was laid on June 30, 2014, is being built for the National Technical Research Organisation, the technical intelligence agency working directly under the supervision of the Prime Minister's Office and the National Security Adviser.
- This will be the first of its kind ocean surveillance ship being built as part of the efforts under the NDA government to strengthen the country's strategic weapons programme.
- This would put India in the elite of club of a few countries that have such a sophisticated ocean surveillance ship.

**PM Mudra Yojana:**

Former RBI Governor Raghuram Rajan has cautioned that the next crisis in India's banking sector could come from [loans](#) given to the unorganised micro and small businesses, called MUDRA loans, and credit extended through the Kisan credit card.

MUDRA loans are offered under the Prime Minister Mudra Yojana or PMMY, launched in 2015 by the NDA government.

**About PM Mudra Yojana:**

A total of ₹6.37 lakh crore has been disbursed under the scheme by public and private sector banks, regional rural banks and micro-finance institutions till date, as per data from the Micro Units Development and Refinance Agency (MUDRA) website.



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**₹ PM MUDRA Yojana ₹**

**Products and Offerings**

The primary product of MUDRA will be refinance for lending to micro businesses/units under the aegis of the Pradhan Mantri MUDRA Yojana. The products would be covered under 'Shishu', 'Kishor' and 'Tarun' category to signify the stage of growth/development and funding needs of the beneficiary micro unit/entrepreneur as also provide a reference point for the next phase of graduation/growth for the entrepreneur to aspire for:

- Shishu : covering loans upto Rs. 50,000/-
- Kishor : covering loans above Rs. 50,000/- and upto Rs. 5 lakh
- Tarun : covering loans above Rs. 5 lakh and upto Rs. 10 lakh

Courtesy: pib.nic.in

## **Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA)**

### **Why in News?**

Giving a major boost to the pro-farmer initiatives of the Government and in keeping with its commitment and dedication for the Annadata, the Union Cabinet chaired by Prime Minister Shri Narendra Modi has approved a new Umbrella Scheme "Pradhan Mantri Annadata Aay SanraksHan Abhiyan" (PM-AASHA).

The Scheme is aimed at ensuring remunerative prices to the farmers for their produce as announced in the Union Budget for 2018.

### **Components of PM-AASHA:**

The new Umbrella Scheme includes the mechanism of ensuring remunerative prices to the farmers and is comprised of

- Price Support Scheme (PSS),
- Price Deficiency Payment Scheme (PDPS)
- Pilot of Private Procurement & Stockist Scheme (PPPS).

In Price Support Scheme (PSS), physical procurement of pulses, oilseeds and Copra will be done by Central Nodal Agencies with proactive role of State governments.



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### **What is Price Deficiency Payment?**

- Under Price Deficiency Payment Scheme this scheme (PDPS), it is proposed to cover all oilseeds for which MSP is notified.
- In this direct payment of the difference between the MSP and the selling/modal price will be made to pre-registered farmers selling his produce in the notified market yard through a transparent auction process.

### **Reasons for launch of Scheme:**

#### **Details:**

- Government of India is working with the holistic approach of solving any issue rather than in fragments.
- Increasing MSP is not adequate and it is more important that farmers should get full benefit of the announced MSP.
- For this, government realizes that it is essential that if price of the agriculture produce market is less than MSP, then in that case State Government and Central Government should purchase either at MSP or work in a manner to provide MSP for the farmers through some other mechanism.

### **Decline in WPI**

#### **Why in News?**

- Inflation-based on wholesale price index (WPI) eased to 4.53% in August on account of decline in the prices of food commodities such as vegetables and pulses.
- WPI inflation stood at 5.09% in July and 3.24% in August last year.
- As per data released on Friday, food articles registered deflation at 4.04% during the month under review while deflation in vegetables, pulses and fruits was 20.18%, 14.26% and 16.40%, respectively.

#### **Fuel basket**

- Inflation in the 'fuel and power' basket was 17.73%.
- The decline in the inflation reading should induce the RBI to resume its accommodative policy stance.

### **What is WPI?**



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- Wholesale Price Index (WPI) measures the average change in the prices of commodities for bulk sale at the level of early stage of transactions.
- The index basket of the WPI covers commodities falling under the three major groups namely Primary Articles, Fuel and Power and Manufactured products. (The index basket of the present 2011-12 series has a total of **697** items including **117** items for Primary Articles, **16** items for Fuel & Power and **564** items for Manufactured Products.)
- In India WPI is also known as the [headline inflation rate](#).
- In India, [Office of Economic Advisor](#) (OEA), Department of Industrial Policy and Promotion, Ministry of Commerce and Industry calculates the WPI.

**The main uses of WPI are the following:**

- to provide estimates of inflation at the wholesale transaction level for the economy as a whole. This helps in timely intervention by the Government to check inflation in particular, in essential commodities, before the price increase spill over to retail prices.
- WPI is used as deflator for many sectors of the economy including for estimating [GDP](#) by Central Statistical Organisation (CSO).
- WPI is also used for [indexation](#) by users in business contracts.
- Global investors also track WPI as one of the key macro indicators for their investment decisions

**Program on energy efficiency in Chillers**

**Why in News?**

Ministry of Power, Government of India launched an ambitious program to encourage the deployment of Energy Efficient chiller systems in the country here today.

**About the Programme:**

- The Chiller Star Labelling Program has been formulated by Bureau of Energy Efficiency (BEE).
- The program envisages providing star rating in terms of its energy performance.
- Initially, the program is launched on voluntary basis and will be valid upto 31<sup>st</sup> December 2020.

**Benefits of Programme:**



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- This initiative will promote advancement technology for central HVAC (Heating, ventilation, and air conditioning) systems and will also facilitate energy efficient solutions for the large commercial and industrial application.
- Chillers, being energy intensive system, contribute more than 40 per cent of the total energy consumption in commercial buildings.
- Therefore, it is important to optimize energy performance of chillers and create awareness amongst the end users to adopt transition towards energy efficient chillers.
- Through Chiller star labelling Program, it is estimated that more than 500 million units of electricity would be saved in 2019 along with Green House Gases (GHG) reduction of 0.5 million-ton equivalent of CO<sub>2</sub>.
- It is also anticipated to save more than 4 Billion units of electricity in the year 2030 with CO<sub>2</sub> emission reduction of 3.5 million ton through this program

**Effect of Aerosol on Climate:**

**Context:**

Increased emissions of aerosols into the atmosphere due to pollution are beginning to have a definite cooling effect of 1 degree C during the Indian summer monsoon period, a study has found.

**Details of Study:**

- The increased cooling is seen during the day, while the night time temperature is increasing, thus shrinking the diurnal temperature difference.
- The diurnal temperature difference is what drives the convection process (where water evaporates and reaches the atmosphere as water vapour), and development of clouds.

**How does It Happens?**

- As diurnal temperature difference decreases, the lower layer of the atmosphere will reduce in height and come closer to the earth's surface.
- This will cause more aerosols to get into the atmosphere, thus impacting the lower atmospheric turbulence, which may eventually affect the distribution of moisture and rainfall.
- The increased concentration of aerosols in the atmosphere also tends to change the shape and characteristics of rain-bearing clouds, leading to extreme rainfall events but weakened monsoon rainfall.
- Rain-bearing clouds were found to increase in number and height when aerosol emission is higher.



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- The clouds also tend to have a far higher number of ice particles that are smaller in size when aerosol loading is higher, thus reducing the efficiency of water droplet growth.

**Other effects of aerosol:**

