

VEDHIK
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ANALYSIS
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FOREWORD

We, at Team Vedhik is happy to introduce a new initiative - "Daily Current Affairs_The Hindu" compilations to help you with UPSC Civil Services Examination preparation. We believe this initiative - "Daily Current Affairs_The Hindu" would help students, especially beginners save time and streamline their preparations with regard to Current Affairs. A content page and an Appendix has been added segregating and mapping the content to the syllabus.

It is an appreciable efforts by Vedhik IAS Academy helping aspirants of UPSC Civil Services Examinations. I would like to express my sincere gratitude to Dr. Babu Sebastian, former VC - MG University in extending all support to this endeavour. Finally I also extend my thanks to thank Ms. Shilpa Sasidharan and Mr. Shahul Hameed for their assistance in the preparing the compilations.

We welcome your valuable comments so that further improvement may be made in the forthcoming material. We look forward to feedback, comments and suggestions on how to improve and add value for students. Every care has been taken to avoid typing errors and if any reader comes across any such error, the authors shall feel obliged if they are informed at their Email ID.

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Myanmar junta chief meets Suu Kyi party stalwart

Experts say the move is aimed at sidelining the NLD chief

AGENCE FRANCE-PRESSE
YANGON

Myanmar's junta chief sat down with a prominent senior figure of Aung San Suu Kyi's ousted party on Sunday, the first significant meeting since the February coup.

The military deposed Ms. Suu Kyi and her National League for Democracy party from power, pushing many of her closest political allies into hiding while others have been arrested.

The junta has alleged electoral fraud in last year's poll as a justification for the putsch, but much of the country is in open revolt calling for a return to democracy.

Help extended

Junta chief Min Aung Hlaing on Sunday met with longtime politician and NLD stalwart Tin Oo, who has in recent years receded from the political landscape due to old age and poor health.

"Min Aung Hlaing told U Tin Oo that health treatment could be provided if necessary, and his army hospital will help," the junta's information team announced.

The junta chief also met with Khin Nyunt, former spy chief-turned-Prime Minister



Ceremonial gesture: Khin Nyunt, right, shaking hands with General Min Aung Hlaing in Yangon. **AP**

before he was arrested under the former junta.

"Min Aung Hlaing also went to meet U Khin Nyunt... and asked about his health condition."

While some in the West saw him as a potential reformer, Khin Nyunt's reign as spy chief saw activists harassed, arrested and tortured en masse.

Khin Nyunt's intelligence apparatus – which once infiltrated every neighbourhood across Myanmar – was purged after his ouster, while Tin Oo no longer plays an active role in NLD party affairs, said Richard Horsey, International Crisis Group's Myanmar senior advisor.

"It seems unlikely this meeting was sanctioned by the NLD," Mr. Horsey said. "Given that Min Aung Hla-

ing seems determined to sideline Aung San Suu Kyi and won't meet with her, perhaps he's looking for other meetings that will be politically cost-free."

A former NLD MP – who is now part of a group of ousted lawmakers working underground to undermine the junta – criticised the meeting Sunday.

"The intention of this meeting is dishonest. Min Aung Hlaing wants to take political advantage out of this meeting," said Htin Myint, who is currently on the run.

Sunday's meeting came on the eve of a junta court verdict on Ms. Suu Kyi's charges of incitement and breaching coronavirus restrictions.

SOIBAM ROCKY SINGH
NEW DELHI

Of a total of ₹981.98 crore sanctioned in 2019-20 under the Centrally Sponsored Scheme (CSS) to the States and Union Territories for development of infrastructure in the courts, only ₹84.9 crore was utilised by a combined five States, rendering the remaining ₹91.36 crore funds unused.

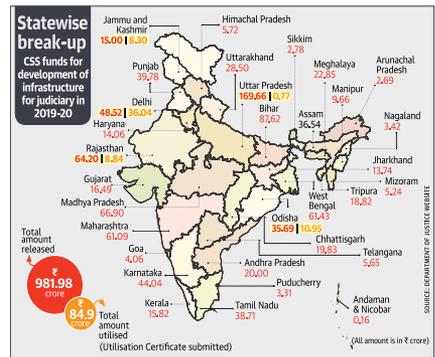
This underutilisation of funds is not an anomaly induced by the COVID-19 pandemic. The issue has been plaguing the Indian judiciary for nearly three decades when the CSS was introduced in 1993-94.

This is one of the reasons why the Chief Justice of India, N.V. Ramana, recently proposed creation of a National Judicial Infrastructure Authority of India (NJIAI), which will take control of the budgeting and infrastructure development of subordinate courts in the country. "Good judicial infrastructure for courts in India has always been an afterthought. It is because of this mindset that courts in India still operate from dilapidated structures making it difficult to effectively perform their function," Chief Justice Ramana said on October 23 while inaugurating an extension wing building of the Bombay High Court Bench at Aurangabad.

State of infrastructure
The Indian judiciary's infrastructure has not kept pace with the sheer number of litigations instituted every year. A point cemented by the fact that the total sanctioned strength of judicial officers in the country is 24,280, but the number of court halls available is

Judicial infrastructure, a neglected case

Chief Justice Ramana suggests one central agency, with a degree of autonomy, for overseeing infrastructure development of subordinate courts in India



17,800 residential units, including 3,988 rented ones, for the judicial officers.

As much as 26% of the court complexes do not have separate ladies toilets and 16% do not have gender toilets. Only 32% of the courtrooms have separate record rooms and only 51% of the court complexes have a library.

Only 5% of the court complexes have basic medical facilities and, only 5%

of the courts to adopt a hybrid system – physical and videoconferencing mode – of hearing, only 27% of the courtrooms have a computer placed on the judge's dais with videoconferencing facility.

Greater autonomy
Chief Justice Ramana, in his speech at the event, highlighted that the improvement and maintenance of judicial infras-

He stressed on the need for "financial autonomy of the judiciary" and creation of the NJIAI that will work as a central agency with a degree of autonomy.

Explaining the requirement for a greater autonomy for the NJIAI, a source familiar with the development in the Supreme Court, said, "The lack of one particular coordinating agency means each year the funds get lapsed. It

of the ₹594.36 crore released under the CSS, only ₹41.28 crore was utilised by a single State – Rajasthan.

The data released by the Department of Justice further revealed that in 2018-19, of the ₹650 crore released by the Centre under the CSS, the utilisation certificate was submitted by 11 States for a total of ₹225 crore.

The current fund-sharing pattern of the CSS stands at 60:40 (Centre:State) and 90:10 for the eight north-eastern and three Himalayan States. The Union Territories get 100% funding.

"If the scheme (NJIAI) is placed under the Government, it will be much like the current scheme of thing. Nobody will bother. There has to be a special purpose vehicle driven by a sense of belongingness and passion, with a degree of authority. That authority has to come from the Supreme Court," the source said.

NALSA model

The proposed NJIAI could work as a central agency with each State having its own State Judicial Infrastructure Authority, much like the National Legal Services Authority (NALSA) model.

It has also been suggested that the Chief Justice of India could be the patron-in-chief of the NJIAI, like in NALSA, and one of the Supreme Court judges nominated by the Chief Justice could be the executive chairman.

But, unlike NALSA

be placed under the Supreme Court of India, the source said.

In the NJIAI there could be a few High Court judges as members, and some Central Government officials because the Centre must also know where the funds are being utilised," the source said.

Similarly, in the State Judicial Infrastructure Authority, he said, in addition to the Chief Justice of the respective High Court and a nominated judge, four to five district court judges and State Government officials could be members.

"The Chief Justice is mindful of the fact that the High Courts are independent of the Supreme Court. The only time when the Supreme Court comes in the picture is the appointment of judges of the High Courts," he said.

Proposal sent to Govt.

Chief Justice Ramana said that he had sent the proposal for the establishment of the NJIAI to the Ministry of Law and Justice, and was "hoping for a positive response soon". He has also urged Minister of Law and Justice Kiren Rijiju to expedite the process and ensure that the proposal to create the NJIAI with statutory backing is taken up in the winter session of Parliament.

"Institutionalising the mechanism for augmenting and creating state-of-the-art judicial infrastructure is the best gift that we can think of giving to our people and our country in

The need to reopen anganwadis

India must invest robustly in the world's largest social programme on early childhood services



DIVYA NAIR & NINA BADGAIYAN

Being closed since the April 2020-lockdown, anganwadis are slowly reopening. Those in Karnataka, Bihar and Tamil Nadu are opening or considering opening shortly. As part of the Integrated Child Development Services (ICDS), anganwadis play a crucial role in supporting households, particularly from low-income families, by providing childcare, health and nutrition, education, supplementary nutrition, immunisation, health check-up and referral services. The largest in the world, ICDS covers about 88 million children aged 0-6 years in India. Their closure significantly impacted service delivery and weakened an important social safety net.

Source of crucial support

Surveys by IDinsight across five States in November 2018 and November 2019 found that anganwadi workers were a primary source of nutrition information for families. Even as anganwadis resumed services, the closure has impacted their ability to serve as childcare centres. According to National Family Health Service (NFHS)-5 data, in 2019-20, less than 15% of five-year-olds attended any pre-primary school at all. A recent study estimates that the time women spend on unpaid work may have increased by 30% during the pandemic. In our COVID-19 rural household surveys across eight States, 58% of women cited home-schooling as the biggest contributor to increase in unpaid work. Sending younger children to anganwadis will free up women's time, including for economic activities. Early childhood, the period from birth to five years of age, is a crucial developmental window. As platforms for early childhood education and nutrition support, anganwadis can play an important role for children to achieve their potential. The National Education Policy, 2020, places anganwadis at the centre of the push to universalise access to early childhood care and education (ECCE). Last week, the government proposed a phased rollout of ECCE programme across all anganwadis, covering one-fifth each year, starting from 2021-22.

Even as we acknowledge their heroic work and push for urgent reopening, we need to offer solutions to their myriad challenges. Despite being the primary information-source on nutrition, anganwadi workers can lack key knowledge - as found by studies from Delhi and Bihar. Surveys we conducted in 2018-19 found that among mothers listed

with anganwadi workers, knowledge about key health behaviour such as complementary feeding and handwashing was low, at 54% and 49%. Anganwadi workers often do not have the support or training to provide ECCE. Administrative responsibilities take up significant time, and core services like pre-school education are deprioritised. A typical worker spends an estimated 10% of their time - 28 minutes per day - on pre-school education, compared to the recommended daily 120 minutes. Anganwadis often lack adequate infrastructure. NITI Aayog found that only 59% of anganwadis had adequate seating for children and workers, and more than half were unhygienic. These issues worsen in an urban context, with the utilisation of early childcare services at anganwadis at only 28%, compared to 42% for rural areas, according to NFHS-4 data.

Deepening impact

As anganwadis reopen, we must prioritise interventions with a demonstrated history of success, and evaluate new ones. Studies in Odisha and Andhra Pradesh (and globally) have found that home visits, where volunteers work with children and caregivers, significantly improved cognition, language, motor development and nutritional intake while also reducing stunting. Recent initiatives around home-based newborn and young child care are promising, but they need to extend beyond the first few months of a child's life, with seamless coordination with anganwadi workers.

Many States will have to improve career incentives and remuneration for anganwadi workers. One way to ensure they have more time is to hire additional workers at anganwadis. A recent study in Tamil Nadu found that an additional worker devoted to pre-school education led to cost effective gains in both learning and nutrition.

Policymakers have tried linking anganwadis and primary schools to strengthen convergence, as well as expanding the duration of daycare at anganwadis. Reaching out to women during pregnancy can increase the likelihood that their children use ICDS services - as tried in Tamil Nadu. In order to boost coverage as they reopen, large scale enrolment drives, that worked in Gujarat, may help mobilise eligible children.

As the world's largest provider of early childhood services, anganwadis perform a crucial role in contributing to life outcomes of children across India. To improve these outcomes, we need to invest more significantly in anganwadis, and roll out proven innovative interventions.

Divya Nair is Director at IDinsight. Nina Badgaiyan is a former senior consultant at NITI Aayog. The views expressed are personal

Boosters short

Availability, coverage, and scientific evidence should decide approval of booster shots

On November 22, the Director-General, ICMR, said that there was no scientific evidence thus far to administer a booster vaccine dose to fully vaccinated people. The priority instead was to increase the percentage of people who are vaccinated with two doses. The Health Minister too said the priority was on fully vaccinating all adults than on booster shot immunisation though adequate vaccines were available. Even when there was growing clamour from a few States for booster doses once the new variant with higher transmissibility causing a huge surge in cases in South Africa became known, the Government has reiterated that any decision on booster doses will be based solely on scientific recommendations. Although over 65 million people in the U.S. are unvaccinated, on October 21, a booster shot was approved for all above 65 years and certain categories of young adults. It was later expanded to include all adults. Many countries in Europe too have approved booster shots, having based their decision at least partially on vaccine effectiveness data. Such evidence has become available in India only very recently. One study found Covishield to be 85% protective against moderate or severe disease and 63% protective against symptomatic infection, while another found Covaxin to be 50% effective against symptomatic infection. Both studies were undertaken during the peak of the Delta variant-driven second wave.

The effectiveness of both vaccines against the Omicron variant is unknown. While this variant appears to be far more transmissible than the Delta variant, disease severity and the age groups most vulnerable to disease are not fully known. Despite these uncertainties, it might still be prudent to approve booster doses for people older than 60 years and young adults who are immunocompromised or have comorbidities. But administering booster doses cannot be at the cost of increased coverage of the first dose and full vaccination. Also, the need to begin immunising adolescents cannot be ignored. Over 1.26 billion doses have been administered as on December 4, with nearly 85% receiving one dose but only over 50% being fully vaccinated. Though the door-to-door vaccination campaign held last month witnessed 11.7% increase in second dose coverage, there is still a sizeable percentage of the population in the priority groups who are not fully vaccinated. Over 8% of health-care workers, 30% of those above 60 years and over 33% of people aged 45-59 years are yet to be fully vaccinated. The rapid global spread of the Omicron variant might also lead to increased vaccine uptake. While a sufficient supply of Covishield, which accounts for nearly 90% of vaccines administered, might be able to meet the demand, the priority should be to increase vaccine coverage and not boosters, particularly so as India will be under pressure to supply vaccines to the global South.

Clearing the mounting debt of Air India

How soon will Air India clear its dues? What does the airline, bought over by the Tatas, owe banks, oil companies and others?

MURALI N. KRISHNASWAMY

The story so far: On Friday (December 3), the Government sought Parliament's approval for infusion of ₹62,057 crore into Air India Assets Holding Limited (IAHL) or the special purpose vehicle that hosts Air India's residual debt, liabilities and some assets. Two months back, on October 8, the Department of Investment and Public Asset Management (DIPAM) secretary Tuhin Kanta Pandey announced at a press conference that the Tata Sons subsidiary, Talace Pvt. Ltd., had won the bid for the national carrier, Air India. He said that after the setting of a reserve price of ₹12,906 crore the Tata Sons subsidiary had emerged the winner, quoting a figure of ₹18,000 crore. The other shortlisted bidder, Ajay Singh of SpiceJet, had quoted ₹15,100 crore.

What will the Government do with the infusion?

A senior Government official said Air India will pay back all its debt and dues owed to banks, oil companies, airports and aircraft lessors by the end of this financial year. Explaining the break-up of the equity infusion sought from Parliament, the official said: "₹61,562



crore is Air India's debt as of August 31, 2021. In addition to this there are excess current liabilities of ₹15,834 crore, which gives us a figure of ₹77,396 crore. Out of this if we remove the debt amount of ₹15,300 crore to be taken on by the Tatas, we get an amount of ₹62,096 crore. This was an estimate at the time and has now been determined as ₹62,057 crore."

What did Tata Sons get when it bought Air India?

The Air India group is made up of these

components: Air India; Air India Express, Air India Engineering Services Limited (AIESL), Air India Air Transport Services Limited (AIATSL); ground handling services to the Air India group and other airlines, Airline Allied Services Limited, or AASL (Alliance Air); the Hotel Corporation of India (Centaur hotels and the Chefair flight kitchens) and Air India SATS Airport Services Private Limited (AISATS) is a 50:50 joint venture between Air India Limited and Singapore Airport Terminal Services Limited (SATS).

The Air India sale was the third attempt by the Government of India (incidentally, all under the National Democratic Alliance), the earlier bids having been in the early 2000s and 2017-2018. This time round, the Government offered management control and sale of 100% equity share capital, each, of Air India and Air India Express and a 50% equity share capital of Air India SATS Airport Services Private Limited – which the Tatas have won.

What is the amount of debt the Tatas took on?

The airline's total debt at the end of August this year was ₹61,562 crore. Of this, Tata Sons (its holding company Talace Pvt. Ltd.) would be taking over ₹15,300 crore, with a cash payment of ₹2,700 crore.

Much of the debt is related to the merger between Air India and the other state-owned carrier, Indian Airlines, which was cleared by the Cabinet on March 1, 2007 to form the National Aviation Company of India Limited (NACIL). Preceding this development – i.e. of the merger – the then United Progressive Alliance government, had in 2005, approved the purchase of 68

aircraft by Air India (from Boeing) – and also the largest commercial aircraft deal in India's civil aviation history – and a year later, 43 planes for Indian Airlines (from the Airbus 320 family, for ₹2.2 billion). The Boeing deal was for 23 777s, 27 787s and 18 737s (for low cost carrier Air India Express). Boeing has also built and transferred a state-of-the-art maintenance, repair and overhaul (MRO) facility at Nagpur. Following mounting losses, there was an investigation into allegations about the nearly ₹70,000 crore deal that had caused a financial loss to the "already stressed national carrier". It also inducted A320Ns on lease from the ALAFCO Aviation Lease and Finance Company in 2017.

According to Mr. Pandey, the airline loses ₹20 crore a day. And, from 2009-10 to date, the Government has infused over ₹1,10,276 crore into the airline; ₹54,584 crore as cash support and ₹55,692 crore as loan guarantees. The four Air India subsidiaries, AIATSL, AASL, AIESL, the Hotel Corporation of India Ltd., and non-core assets, that also include the fabled collection of art work, paintings and artefacts, and other non-operational assets have been transferred to the IAHL. *With inputs by Jagriti Chandra*

THE GIST

■ Following the acquisition of Air India by Tata sons two months back, the Government sought Parliament's approval for infusion of ₹62,057 cr into the IAHL that hosts Air India's residual debt.

■ The Air India is approximately ₹77,396 cr in debt. Out of this Tata sons will bear the debt amount of ₹15,300 cr while the rest has to be borne by the Government itself, which is why the infusion is being sought in Parliament.

■ Much of the debt is related to the merger between Air India and the other state-owned carrier, Indian Airlines, which was cleared by the Cabinet on March 1, 2007 to form the NACIL.

Sri Lankan adviser links Pak. lynching to Taliban takeover

Radical groups are getting emboldened, says Gunaratna

SUHASINI HAIDAR
ABU DHABI

Drawing a link between the lynching of a Sri Lankan national at Sialkot in Pakistan on Friday to the Taliban's takeover of Kabul, a senior Sri Lankan Government adviser, speaking at a regional conference where countries spoke about the outcome of events in Afghanistan, said that terrorist groups and religious radical groups across South Asia had been emboldened.

"The lynching and burning of the Sri Lankan is a clear reflection of the spread of Salafi Wahhabism in the region. And it's a cancerous ideology that has to be contained, isolated and eliminated," said Rohan Gunaratna, Director-General of the Sri Lankan military think tank, the Institute of National Security Studies, who accompanied President Gotabaya Rajapaksa to the Indian Ocean Conference in Abu Dhabi, in an interview to *The Hindu*.

Speaking at the conference, Mr. Rajapaksa had called for a regional mechanism to share intelligence and coordinate actions against the threat posed by "religious extremism and terrorism".

State backed militancy

The Sri Lankan Government has expressed its outrage over the killing of Sri Lankan national Priyantha Diyawadana, a manager at a factory, who was beaten to death



People paying condolences to Priyantha Diyawadana who was killed in Karachi. •REUTERS

and burnt by a mob that claimed that he had committed "blasphemy" by asking for the removal of posters of radical Islamist group Tehreek-e-Labaik Pakistan (TLP).

The Pakistan Government had lifted a ban on the TLP only last month, and taken its leader, Saad Rizvi, off its terrorist list, under pressure from massive public protests.

"Since the return of the Taliban on August 15, we are seeing that terrorist organisations have come to power in Afghanistan, which is once again emerging as the epicentre of terrorism, and Afghanistan, maybe a new Syria," Mr. Gunaratna added, expressing concern that the development had given a fillip to radical Islamist groups in South Asian countries, particularly in Pakistan.

On Saturday evening, External Affairs Minister S. Jaishankar had also alluded

to the fallout of events in Afghanistan, that he said, apart from the COVID-19 pandemic, has had the biggest impact on Indian Ocean countries, given "proximity and sociology".

Serious concerns

"The American withdrawal from Afghanistan... leaves both the immediate and extended region grappling with serious concerns about terrorism, radicalism, instability, narco-trafficking and governance practices," Mr. Jaishankar said, in the first such comments that indicated clear differences with the U.S. policy on Afghanistan.

In July this year, after meeting with U.S. Secretary of State Antony Blinken, Mr. Jaishankar had said India and the U.S.'s views on Afghanistan were "quite similar", and also in October, days after Prime Minister Narendra Modi met U.S. President Joseph Biden, he had said they were on "similar pages" on most issues on Afghanistan, including terrorism.

When asked about the comments, a senior U.S. diplomat said that the U.S. does understand the need to keep "partners in the region" close on what happens in Afghanistan.

"If we didn't understand before, we certainly do now," Jennifer Larson, U.S. Deputy Assistant Secretary of State for South and Central Asia, said in response to a question from *The Hindu*.

Be aware of bitcoin, other cryptocurrencies

Before debating whether to ban private cryptocurrencies, it is prudent first to understand what cryptocurrencies are

ANAND SRINIVASAN
SASHWATH SWAMINATHAN

Virtual currencies created using blockchain technology have been the subject of great speculation and discussion in recent times.

Legendary investors Charlie Munger and Warren Buffet have gone as far as to call Bitcoin and other cryptocurrencies 'rat poison.'

Before debating on whether to ban private cryptocurrency, it is prudent first to understand what cryptocurrencies are.

Cryptocurrencies are digital encrypted tokens that can be transferred between two parties without the need for a centralised regulator.

The facilitators of the transaction work to verify a transaction individually and maintain a public ledger open for anyone to see.

No intrinsic value

The elimination of a centralised entity is why we see the world 'decentralisation' being thrown around very often. Cryptocurrencies are not 'untraceable' as most believe; in fact, it happens to be more traceable than currency notes due to the public

ledger leaving a clear trail.

In addition, when discussing the merits of cryptocurrencies, one must understand that it possesses no intrinsic value. Stocks provide partial ownership of a firm that produces goods and services, bonds provide a steady source of income, and gold has inherent metal value. Cryptocurrencies are non-productive assets that are merely traded because there is demand for it.

Ex-RBI Governor Raghuram Rajan had stated recently in a TV interview that "a lot of cryptos have value only because there is a greater fool out there willing to buy".

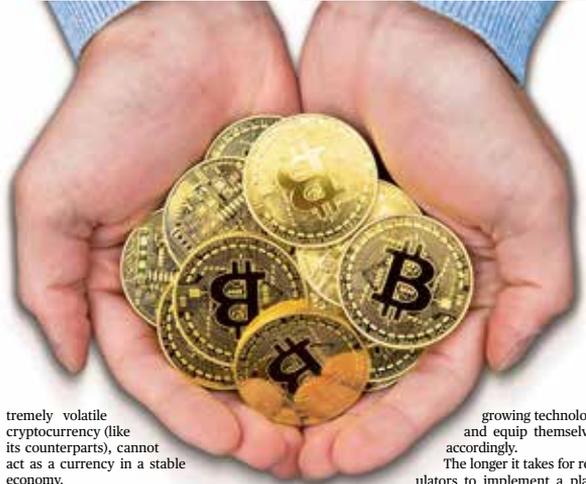
Cryptocurrencies are eerily similar to the tulip mania of 1636, when tulips were being traded for the sake of turning a profit. Another essential point to note is that although theoretically there is a scarcity of Bitcoin and other cryptocurrencies, that does not mean anything in terms of economics because there needs to be a particular purpose that will sustain demand for the asset.

Some claim that Bitcoin and other private cryptocurrencies are a new revolution in curren-

cies and the monetary system.

No central bank or government around the world would be interested in relinquishing power over the money supply. Private cryptocurrencies being adopted as a legitimate currency in the nation will spell the end of regulation and economic intervention by the central bank. This is because central banks require the ability to manipulate the money supply to intervene during a crisis. Private cryptocurrencies strip the central bank of this power, leaving the central bank effectively unable to set interest rates and control the money supply efficiently. In a crisis such as the COVID-19 pandemic, it would become challenging for monetary regulators to step in and aid a wounded economy.

Therefore, it is improbable for any notable government to favour and encourage private cryptocurrencies for these reasons. Moreover, due to speculation, cryptocurrencies ensure that they can never act as a measure of the value of goods and services. For a cryptocurrency such as Bitcoin to be accepted as a currency, it has to price goods. Bitcoin, an ex-



remely volatile cryptocurrency (like its counterparts), cannot act as a currency in a stable economy.

Ban on cryptos

Although a particular country can choose to ban private cryptocurrencies, that this does not mean anything to the asset as a whole is untrue. The significant advantage which cryptocurrencies pose, which is decentralisation, leads to its downfall. Any government with large enough pockets can decide to take down the cryptocurrency by destroying its monetary value. The incentive for miners and other participants to maintain the system is financial.

If the price of a cryptocurrency such as Bitcoin were to drop to 0, it would be devastating. The act of a significant government announcing its inten-

Those who invest in cryptocurrencies need to understand that they are speculating rather than investing. It follows that while speculating, one takes comprehensive care to know what they are getting into

tion to take down cryptocurrencies would leave a considerable dent in the price. Additionally, cryptocurrency mining takes up a substantial amount of a country's resources which could be put to more productive uses.

It is crucial for governments worldwide to decide on a course of action regarding this

growing technology and equip themselves accordingly.

The longer it takes for regulators to implement a plan, the greater there is to lose as the amount of money being channelled into the asset grows further. Unfortunately, all bubbles come to an abrupt end leaving many financially distraught.

Those who invest in cryptocurrencies need to understand that they are speculating rather than investing. It follows that while speculating, one takes comprehensive care to know what they are getting into. Therefore, it is vital that an individual does not stake their financial security upon this novel asset.

(Anand Srinivasan is a consultant and Sashwath Swaminathan is a research associate at Aionion Investment Services)

Hyderabad-based rocket men aim for the stars

They test-fired India's first privately built cryogenic engine

V. GEETANATH
HYDERABAD

When Hyderabad-based Skyroot Aerospace successfully test-fired Dhawan-1 last month, it became the country's first privately developed, fully functional rocket engine running on two high-performance rocket propellants – liquid natural gas (LNG) and liquid oxygen (LoX). The engine was developed using 3D printing with a superalloy.

That has set the firm on a higher trajectory with an ambitious plan to launch the first private space launch vehicle using cryogenic engine Vikram-2 into orbit in two years. Before that, the two co-founders – C. Pawan Kumar (IIT-Kharagpur, 2012 batch) and Naga Bharath D. (IIT-Madras, 2012 batch) – plan to put their first launch vehicle, 20-metre Vikram-1, based on solid propulsion engine, in space. This was after successfully designing and developing the solid propulsion rocket engine, the first private firm in the country to do so.



Skyroot Aerospace founders and ex-IITians Naga Bharath D. and C. Pawan Kumar

"We are space enthusiasts wanting to become entrepreneurs and to capture emerging opportunities in the sector. The world over, the private sector is driving innovations at a low cost. There was no regulatory framework when we began three years ago, but we are on the verge of taking off now testing multiple engines. Very few countries have developed a cryogenic engine," said Mr. Pawan Ku-

mar.

"It took us a year to conceptualise our work. We knew it required a lot of research, but we were sure of our skill set. We have been able to iron out the deficiencies with a rigorous review system," Mr. Bharath said.

Incidentally, both were flatmates after having been recruited by the Indian Space Research Organisation (ISRO), and worked on GSLV Mark III stage rocket before deciding to branch out on their own, together.

"Obviously, our families supported us, realising our passion for space technology research though we were barely 30. We have been fortunate to have financial backing from Mukesh Bansal [Myntara founder], also a space enthusiast who believed in our dream. We are now a 100-member strong team," they said.

The firm has already won a national award for startups in space research and had an online interaction with Prime Minister Narendra Modi.

EXPLAINER

The arms race towards hypersonic weapons

How are hypersonic weapons different from traditional weaponry? Where does India stand vis-a-vis the technology?

DINAKAR PERI

THE GIST

- Hypersonic weapons are manoeuvrable weapons that can fly at speeds in excess of Mach 5, five times the speed of sound. They travel within the atmosphere and can manoeuvre midway which combined with their high speeds makes their detection and interception extremely difficult.

- China tested a nuclear-capable hypersonic missile in August while Russia announced that it had successfully test launched a Tsirkon hypersonic cruise missile in early October. While the U.S. has active hypersonic development programmes, it was lagging behind because most U.S. hypersonic weapons are not being designed for use with a nuclear warhead.

- India operates approximately 12 hypersonic wind tunnels and is capable of testing speeds of up to Mach 13. India is also developing an indigenous, dual-capable hypersonic cruise missile as part of its Hypersonic Technology Demonstrator Vehicle (HSTDV) program.

The story so far: In October, *The Financial Times* had reported that China tested a nuclear-capable hypersonic missile in August that circled the globe before speeding towards its target, demonstrating an advanced space capability that caught U.S. intelligence by surprise. This was later confirmed by U.S. military officer Gen Mark Milley, Chairman of the joint chiefs of staff. However, China has denied that it was nuclear capable. This and other recent developments have put the spotlight on hypersonic weapons development, especially the advancements made by China and Russia.

What are hypersonic weapons?

They are manoeuvrable weapons that can fly at speeds in excess of Mach 5, five times the speed of sound. The speed of sound is Mach 1, and speeds upto Mach 5 are supersonic and speeds above Mach 5 are hypersonic. Ballistic missiles, though much faster, follow a fixed trajectory and travel outside the atmosphere to re-enter only near impact. On the contrary, hypersonic weapons travel within the atmosphere and can manoeuvre midway which combined with their high speeds makes their detection and interception extremely difficult. This means that radars and air defences cannot detect them till they are very close and little time to react.

According to the latest memo of the Congressional Research Service (CRS), 'Hypersonic Weapons: Background and Issues for Congress' of October 2021, there are two classes of hypersonic weapons, hypersonic glide vehicles (HGV) and hypersonic cruise missiles (HCM). HGVs are launched from a rocket before gliding to a target while HCMs are powered by high-speed, air-breathing engines, or scramjets, after acquiring their target.

Hypersonic missiles are a new class of threat because they are capable both of manoeuvring and of flying faster than 5,000 kms per hour, which would enable such missiles to penetrate most missile defences and to further compress the timelines for response by a nation under attack, says a 2017 book *Hypersonic Missile Nonproliferation* published by the RAND Corporation.

What is the status of Chinese and Russian programmes and where does



the U.S. stand?

In addition to the Chinese test, early October, Russia announced that it had successfully test launched a Tsirkon hypersonic cruise missile from a Severodvinsk submarine deployed in the Barents Sea which hit a target 350 kms away.

Talking of the test in November, Russian President Vladimir Putin declared that the tests were almost complete and the Russian Navy would start receiving them in 2022. "Now, it is especially important to develop and implement the technologies necessary to create new hypersonic weapons systems, high-powered lasers and robotic systems that will be able to effectively counter potential military threats," he said.

While the U.S. has active hypersonic development programmes, the CRS memo said it was lagging behind China and Russia because "most U.S. hypersonic weapons, in contrast to those in Russia and China, are not being designed for use with a nuclear warhead." "As a result, U.S. hypersonic weapons will likely require greater accuracy and will be more technically challenging to develop than nuclear-armed Chinese and Russian systems," it stated.

The U.S. is now looking to accelerate its own programmes, though it is unlikely to field an operational system before 2023. The Pentagon's budget request for hypersonic research for financial year 2022 is \$3.9 billion, up from the \$3.2 billion it requested

a year earlier. The Missile Defence Agency additionally requested \$247.9 million for hypersonic defence.

However, as stated by the U.S. Principal Director for Hypersonics Mike White, the Department of Defence has not yet made a decision to acquire hypersonic weapons and is instead developing prototypes to assist in the evaluation of potential weapon system concepts and mission sets.

Debunking some of the claims surrounding hypersonic weapons, Physicists David Wright and Cameron Tracy wrote in the *Scientific American* dated August 1, 2021 that their studies indicate that hypersonic weapons "may have advantages in certain scenarios, but by no means do they constitute a revolution." "Many of the claims about them are exaggerated or simply false. And yet the widespread perception that hypersonic weapons are a game-changer has increased tensions among the U.S., Russia and China, driving a new arms race and escalating the chances of conflict," they wrote in the article "The Physics and Hype of Hypersonic Weapons".

What is the status of development by other countries?

The CRS Memo noted that a number of other countries - including Australia, India, France, Germany, and Japan—are also developing hypersonic weapons technology. India operates approximately 12

hypersonic wind tunnels and is capable of testing speeds of up to Mach 13, according to CRS.

"Reportedly, India is also developing an indigenous, dual-capable hypersonic cruise missile as part of its Hypersonic Technology Demonstrator Vehicle (HSTDV) program and successfully tested a Mach 6 scramjet in June 2019 and September 2020," the memo stated.

This test was carried out by the Defence Research and Development Organisation (DRDO) and demonstrated the scramjet engine technology, a major breakthrough. In a scramjet engine, air goes inside the engine at supersonic speed and comes out at hypersonic speeds.

DRDO had said after the test in 2020, many critical technologies such as aerodynamic configuration for hypersonic manoeuvres, use of scramjet propulsion for ignition and sustained combustion at hypersonic flow, thermo-structural characterisation of high temperature materials, separation mechanism at hypersonic velocities have been validated.

Given the rising tensions between the U.S., China and Russia as also the worsening geopolitical situation worldwide, the focus for hypersonic weapons is only set to accelerate more countries to invest significant resources in their design and development.

Take-off: The Defence Research and Development Organisation (DRDO) successfully demonstrated the hypersonic air-breathing scramjet technology with the flight test of Hypersonic Technology Demonstrator Vehicle (HSTDV) from Dr APJ Abdul Kalam Launch Complex in Odisha on September 7, 2020.

PTI



A metro train enters a station as the AQI remained in the 'very poor' category in the Capital on Sunday. •V.V. KRISHNAN

AQI improves slightly but still 'very poor'

Pollution panel forms 40 teams to monitor enforcement, compliance of orders

SPECIAL CORRESPONDENT
NEW DELHI

The air quality in the Capital improved slightly but remained in the lower end of the 'very poor' category on Sunday.

The AQI forecast shows that due to an increase in wind speed, the air quality is likely to improve further but will remain in the 'poor' category on December 6 and 7 and fall to 'moderate' category on December 8. The IMD has also forecast clear skies from December 6 with a fall in the minimum temperature by a few notches.

In another development, the Commission for Air Quality Management (CAQM) that has constituted an enforcement taskforce to rigorously monitor enforcement and compliance of directions/orders issued by it, on Sunday, said that it had constituted 40 flying squads/inspection teams for intensive field-level incognito checks at industrial units, construction

and demolition sites commercial/residential units and air pollution hotspots.

140 sites inspected

"Till Saturday, more than 140 sites were inspected by the flying squads and based on the reports furnished by them, serious violations by various units are being identified for strict actions, including closure. Suitable actions against other non-conforming units is also being initiated," the CAQM said.

It added that it is holding exhaustive review meetings daily with the 40 inspection teams/ flying squads continuously supervising and rigorously monitoring enforcement and compliance of statutory directions issued by the commission to improve the air quality of Delhi-NCR.

The CAQM said it has also advised the respective implementing agencies, including the State Government

authorities, the Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs) to continue to ensure compliance and strict implementation of the directions and submit their daily action taken-report to the enforcement taskforce on a daily basis.

The CAQM on Friday had ordered shutting of educational institutions, allowing only online mode of education. It had also directed that industrial operations and processes in NCR, not running on piped natural gas or other cleaner fuels, be allowed to operate only up to eight hours a day from Monday to Friday and shall not be allowed to run on weekends.

It had also ordered that all industries in NCR, still using unapproved fuels, be closed by the respective Governments with immediate effect and a strict ban on use of diesel generators, except for emergency services.

Odisha bears brunt of Jawad rain

Orange alert declared for nine coastal districts in State

SPECIAL CORRESPONDENT
BHUBANESWAR/KOLKATA

Heavy rain lashed coastal Odisha submerging harvest-ready crops of vast hectares of land as Cyclone Jawad weakened into a depression on Sunday.

While coastal areas of West Bengal, including Kolkata, witnessed incessant rain, no major damage was reported. "The deep depression, remnant of cyclonic storm Jawad is likely to continue to move north-north-eastwards, along Odisha coast towards West Bengal



Storm trail: Water being drained during the FIH Junior Hockey World Cup match in Odisha.

• BISWARANJAN ROUT

coast and weaken into a well-marked low-pressure area during next 12 hours," the India Meteorological Centre (IMC) said.

The port town of Paradip recorded 109 mm of rainfall from 2.30 p.m. to 3.30 p.m. Since 8.30 a.m., the city received 201 mm. Ersama, close to Paradip, recorded 188 mm. Balikuda, Kujanga and Nuagaon recorded 130 mm, 114 mm and 123 mm, respectively.

The IMD issued an orange warning for Puri, Khordha, Cuttack, Jagatsinghpur, Kendrapada, Jajpur, Bhadrak, Balasore, and Mayurbhanj in Odisha for Monday.

CONTINUED ON ► PAGE 8

Anti-drone tech for Pak. borders: Shah

'Home-grown technology will be used'

SPECIAL CORRESPONDENT
NEW DELHI

Union Home Minister Amit Shah said that indigenously made anti-drone technology would soon be available to tackle the challenges faced by drones in areas bordering Pakistan.

Mr. Shah was speaking at the 56th Raising Day Parade of the Border Security Force (BSF) in Jaisalmer on Sunday. This is the first time that the Raising Day Parade of the border guarding force has been held outside Delhi.

Mr. Shah also invoked the surgical strike operation after the 2016 Uri terror attack and the Balakot air strike post Pulwama attack in 2019 to drive the point that the Government was serious about national security.

Director-General of Border Guard Bangladesh Shafeenul Islam was among the special invitees present on the occasion. Earlier, BSF Director General Pankaj Kumar Singh had said that this year, at least 67 drones had

been sighted along the Pakistan border.

The BSF is deployed along 6,386.36 km of the International Border with Pakistan and Bangladesh. Mr. Shah asked the force personnel to ensure that people living in border areas had access to electricity, gas connections and other amenities.

He said that the Government would leave no stone unturned to provide the best technological equipment and infrastructure facilities to ensure that the operational challenges arising due to the present day geopolitical scenario are fully met. Stating that all welfare requirements of troops will be accorded top priority, he elucidated the various programmes initiated by the Government to ensure that all force personnel and their families are cared for.

He added that 50,000 personnel had been recruited and their training was under way.

Army operation in Nagaland goes awry, 15 civilians dead

Six killed in mistaken fire; nine more and a soldier dead in retaliatory violence

RAHUL KARMAKAR
DINAKAR PERI
GUWAHATI/ NEW DELHI

At least 15 civilians and one soldier were killed following a botched operation by the Army in Mon district of Nagaland on Saturday evening and retaliatory violence in the ensuing 24 hours.

Unconfirmed reports put the civilian death toll at 17. Two villagers have been missing since the incident.

The State Government and the Army have ordered an investigation. The Army's 3 Corps based near Dimapur town in the State admitted to an intelligence failure with a statement of regret.

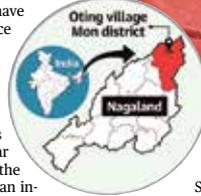
Around 5 p.m. on Saturday, a special unit of the Army mistakenly opened fire at a pick-up van carrying coal miners from the Tiru area to their village of Oting, about 15 km away, killing six on board.

Clashes erupt

About an hour later, seven more civilians and a soldier were killed when people, alarmed by the gunshots and the death of their fellow villagers, clashed with the troops with machetes and sticks.



Angry outburst: People torching vehicles belonging to security personnel at Oting village in Mon district, Nagaland, on Saturday night. •PTI



Several civilians and soldiers were injured.

At least two vehicles of the Army Special unit were set on fire.

On Sunday, protests erupted across Nagaland with a mob of about 500 men attacking and vandalising a camp of the paramilitary Assam Rifles in the district headquarters of Mon. At least two persons were killed during the attack, a police official said.

The Army's 3 Corps statement said a specific operation was planned to be conducted in the area of Tiru based on credible intelli-

gence of the likely movement of insurgents. "The incident and its aftermath are deeply regretted. The cause of the unfortunate loss of lives is being investigated at the highest level and appropriate action will be taken as per the course of law," the statement said.

It said the security forces suffered severe injuries in the incident and confirmed the jawan's death.

District officials said four civilians injured during Saturday's violence were admitted to a hospital in Mon, while two were taken to the Assam Medical College and Hospital in Dibrugarh.

Local tribal organisations alleged that 11 villagers were injured, and feared the two who went missing were dead.

Soon after the violence in Mon, ban orders under Section 144 of the Code of Criminal Procedure were imposed in the district to prevent gatherings and restricting the movement of vehicles barring those carrying essential items from Sunday. The State Government also suspended mobile Internet and data services and bulk SMS in the entire district.

Centre reaches out to Naga insurgents

NSCN-IM terms Mon killings most unfortunate, says they cannot be justified in any manner

VIJAITA SINGH
NEW DELHI

The Union Government has reached out to all Naga insurgent groups, including the Isaak-Muivah faction of the National Socialist Council of Nagaland (NSCN-IM), following the killing of 15 civilians in an operation by the armed forces in Mon district of Nagaland on Saturday.

A senior Government official told *The Hindu* that efforts were being made on the ground to assuage the situation. Following the killings, widespread protests have erupted in Nagaland and adjoining areas. The NSCN-IM, the largest Naga group that signed a framework agreement with the Centre in 2015 to find a solution to the Naga political issue, said in a state-

ment on Sunday that it "is one of the most unfortunate incidents of the Indo-Naga ceasefire signed in 1997".

The group in its statement said, "Under this situation we find it difficult to use the right words to condemn the killing of unarmed civilians and it cannot be justified in any manner in this part of the civilised world where the Indo-Naga peace process has seen much progress."

In a parallel development, former interlocutor and former Nagaland Governor R.N. Ravi left Chennai for Delhi on Sunday apparently to attend an emergency meeting. Mr. Ravi had stepped down as interlocutor and was appointed Governor of Tamil Nadu in September, after talks with the



Protest gesture: A black flag being hoisted at the venue of the Hornbill festival in Kisama, Nagaland, on Sunday. •PTI

IM faction hit rough weather last year and the group demanded his removal. The talks have been revived after the transfer of Mr. Ravi, with the Centre deputing retired Intelligence Bureau Special Director A.K. Mishra. The

NSCN-IM is demanding a separate flag and Constitution.

There are four other groups with whom the Centre has signed a ceasefire agreement - NSCN (NK), NSCN(R), NSCN (K-Khangon)

and NSCN (Niki Sumi). The official said it was too early to say if the Mon incident will have a bearing on the ongoing talks, but they were keeping a watch.

Another Government official said the campaign to repeal the Armed Forces (Special Powers) Act (AFSPA) has also gathered steam. Nagaland has been declared a "disturbed area" by the Union Home Ministry under AFSPA, which empowers security forces to conduct operations anywhere and arrest anyone without prior notice.

AFSPA has been in force in the northeast since 1958. Nagaland acquired statehood in 1963.

(With inputs from B. Kolappan in Chennai)

General Studies Paper I	
A	History of Indian culture will cover the salient aspects of art forms, literature and architecture from ancient to modern times;
B	Modern Indian history from about the middle of the eighteenth century until the present-significant events, personalities, issues;
C	Freedom struggle-its various stages and important contributors / contributions from different parts of the country;
D	Post-independence consolidation and reorganization within the country;
E	History of the world will include events from 18 th century such as industrial revolution, world wars, re-drawal of national boundaries, colonization, decolonization,
F	Political philosophies like communism, capitalism, socialism etc.-their forms and effect on the society
G	Salient features of Indian Society, Diversity of India;
H	Effects of globalization on Indian society;
I	Role of women and women's organization;
J	Social empowerment, communalism, regionalism & secularism
K	Salient features of world's physical geography;
L	Geographical features and their location- changes in critical geographical features (including water bodies and ice-caps) and in flora and fauna and the effects of such changes;
M	Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc.
N	Distribution of key natural resources across the world (including South Asia and the Indian subcontinent);
O	Factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India);
P	Population and associated issues;
Q	Urbanization, their problems and their remedies
General Studies Paper II	
A	India and its neighbourhood- relations;
B	Important International institutions, agencies and fora- their structure, mandate;
C	Effect of policies and politics of developed and developing countries on India's interests;
D	Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
E	Indian Constitution, historical underpinnings, evolution, features, amendments, significant provisions and basic structure;
F	Comparison of the Indian Constitutional scheme with other countries;
G	Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein; Inclusive growth and issues arising from it;
H	Parliament and State Legislatures - structure, functioning, conduct of business, powers & privileges and issues arising out of these;
I	Structure, organization and functioning of the executive and the judiciary, Ministries and Departments;

J	Separation of powers between various organs dispute redressal mechanisms and institutions;
K	Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional bodies;
L	Statutory, regulatory and various quasi-judicial bodies;
M	Mechanisms, laws, institutions and bodies constituted for the protection and betterment of these vulnerable sections;
N	Salient features of the Representation of People's Act;
O	Important aspects of governance, transparency and accountability, e-governance- applications, models, successes, limitations, and potential;
P	Citizens charters, transparency & accountability and institutional and other measures;
Q	Issues relating to poverty and hunger,
R	Welfare schemes for vulnerable sections of the population by the Centre and States, Performance of these schemes;
S	Issues relating to development and management of social sector / services relating to education and human resources;
T	Issues relating to development and management of social sector / services relating to health
General Studies Paper III	
A	Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment;
B	Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth;
C	Inclusive growth and issues arising from it;
D	Infrastructure Energy, Ports, Roads, Airports, Railways etc. Government budgeting;
E	Land reforms in India
F	Major crops, cropping patterns in various parts of the country, different types of irrigation and irrigation systems;
G	Storage, transport and marketing of agricultural produce and issues and related constraints;
H	e-technology in the aid of farmers; Technology Missions; Economics of Animal-Rearing.
I	Issues of buffer stocks and food security, Public Distribution System- objectives, functioning, limitations, revamping;
J	Food processing and related industries in India – scope and significance, location, upstream and downstream requirements, supply chain management;
K	Issues related to direct and indirect farm subsidies and minimum support prices
L	Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology;
M	Indigenization of technology and developing new technology;
N	Developments and their applications and effects in everyday life;
O	Issues relating to intellectual property rights
P	Conservation, environmental pollution and degradation, environmental impact assessment
Q	Disaster and disaster management
R	Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security;
S	Money-laundering and its prevention;

T	Various forces and their mandate;
U	Security challenges and their management in border areas;
V	Linkages of organized crime with terrorism;
W	Role of external state and non-state actors in creating challenges to internal security;
X	Linkages between development and spread of extremism.
General Studies Paper IV	
A	Ethics and Human Interface: Essence, determinants and consequences of Ethics in human actions;
B	Dimensions of ethics;
C	Ethics in private and public relationships. Human Values - lessons from the lives and teachings of great leaders, reformers and administrators;
D	Role of family, society and educational institutions in inculcating values.
E	Attitude: Content, structure, function; its influence and relation with thought and behaviour;
F	Moral and political attitudes;
G	Social influence and persuasion.
H	Aptitude and foundational values for Civil Service , integrity, impartiality and non-partisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker sections.
I	Emotional intelligence-concepts, and their utilities and application in administration and governance.
J	Contributions of moral thinkers and philosophers from India and world.
K	Public/Civil service values and Ethics in Public administration: Status and problems;
L	Ethical concerns and dilemmas in government and private institutions;
M	Laws, rules, regulations and conscience as
N	sources of ethical guidance;
O	Accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding;
P	Corporate governance.
Q	Probity in Governance: Concept of public service;
R	Philosophical basis of governance and probity;
S	Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
T	Case Studies on above issues.