

HOT TOPICS

for CIVIL SERVICES PRELIMINARY EXAMINATIONS

The International Campaign to
Abolish Nuclear Weapons (ICAN)

11th WTO Ministerial Conference:
Buenos Aires, Argentina, 2017

SC Upholds Passive Euthanasia

Super Blue Blood Moon

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11th WTO Ministerial Conference: Buenos Aires, Argentina, 2017

World Trade Organization is an international economic organization committed to free trade. WTO Ministerial conference is held after every 2 years.

Major Issues Discussed in 11th Conference

1. **Farm subsidy by developed countries:** A joint proposal was made by India and China to eliminate the trade-distorting farm subsidies [also called Aggregate Measurement of Support (AMS)] given by developed countries. Once these subsidies are eliminated, the agricultural output of developed nations will be costlier. Thus, agricultural exports from developing nations would promote.
2. **Food procurement and stockholding:** The other major issue was finding a permanent solution to the food procurement subsidies. These subsidies are important for food security in the developing world. The G-33 coalition—which includes Indonesia, China, and India—seeks a complete exemption from commitments to reduce subsidies on procurement of agricultural commodities.

Other Issues

- Special Safeguard Mechanism (SSM allows developing nations to temporarily increase import tariffs to counter agricultural imports).
- Trade facilitation in services (including easing restrictions regarding movement of professionals and skilled workers across borders for temporary work or projects).
- Limits on fisheries subsidies given by developed nations.
- Negotiations on e-commerce.

What Is G-33?

The G-33 (or the Friends of Special Products in Agriculture) is a coalition of developing nations who have coordinated in World Trade Organization negotiations, especially regarding agriculture.

The group seeks to keep restrictions on trade in agricultural products. The group favors separate category for ‘special products’, which would allow developing countries to exempt certain products from tariff reductions, and a ‘special safeguard mechanism’ which would permit tariff increases in response to import surges.

Ease of Doing Business Report

It is released annually by World Bank. A higher ranking of country in this list means that its regulatory environment is more conducive and favorable for undertaking business. Ranking of country is based on 10 indicators, each having equal weightage. The 10 indicators are as follows:

1. Starting a business
2. Dealing with construction permits
3. Getting electricity

4. Registering property
5. Getting credit
6. Protecting minority investors
7. Paying taxes
8. Trading across borders
9. Enforcing contracts
10. Resolving insolvency

Key Highlights of 2018 Report

1. India jumped from 130th to 100th rank (amongst 190 countries) in the World Bank Ease of Doing Business Report, 2018.

India's performance in World Bank's 'Ease of doing business' report

Indicator (Ranking)	2017	2018
Starting a business	155	156
Dealing with construction permits	185	181
Getting electricity	26	29
Registering property	138	154
Getting credit	44	29
Protecting minority investors	13	4
Paying taxes	172	119
Trading across borders	143	146
Enforcing contracts	172	164
Resolving insolvency	136	103
Overall ranking	130	100



2. New Zealand scored the first rank followed by Singapore.
3. BRICS nations: India ranked the lowest amongst the BRICS nations.
4. India's neighbors: Bhutan (75), China (78), Nepal (105), Sri Lanka (111), Pakistan (147), Bangladesh (177).

Why Is the Ranking Significant?

The ease of doing business is considered as an important parameter to judge investment climate of a country.

What Is the Criticism of Ranking?

- (i) The ranking is based on one or two major cities. For instance, India's ranking is based on investment climate of Delhi and Mumbai only.
- (ii) Governments may be altering their policies to fit the World Bank's criteria, instead of adopting wider structural reforms.
- (iii) Bank measures country's business environment based on written legal rules rather than the actual ground conditions in which businesses operate. Some surveys have found that there is significant variation between World Bank's surveys and actual business conditions.

LTCG Tax on Equity

What Is LTCG?

Long-term capital gains (LTCG) refer to the profit made on sale of any asset held for a particular period of time. In case of equity shares, it refers to the profit made on shares held for more than one year. In other words, if the shares are bought and kept for more than a year before selling, then the profit, if any, on the said sale are referred to as long-term capital gains (or LTCG). The tax on LTCG is called LTCG tax.

Why Is LTCG Tax in the News?

In Budget 2018, Finance Minister Arun Jaitley re-introduced LTCG tax on equity shares. Investors have to pay 10% LTCG tax on gains exceeding ₹1 lakh on the sale of shares or equity mutual funds held for more than one year. Gains arising on shares held for less than 1 year are called short-term capital gains (STCG). STCG are taxed at rate of 15%.

In other words, the Centre said that if the gains exceeded ₹1 lakh in a year, then 10% LTCG tax had to be paid without the benefit of indexation. Indexation refers to adjusting the profit against inflation to compute the real taxable gains.

Was the Tax Levied on Stock Market Trades Earlier?

Until October 2004, LTCG tax was levied on stock market trades. It was replaced with the securities transaction tax (STT). STT is levied at 0.1% of the trade value on all trades made on the stock exchanges.

A study published in 2016 revealed that between 2005–06 and 2011–12, the Centre lost about ₹3.5 lakh crore by replacing LTCG tax with STT.

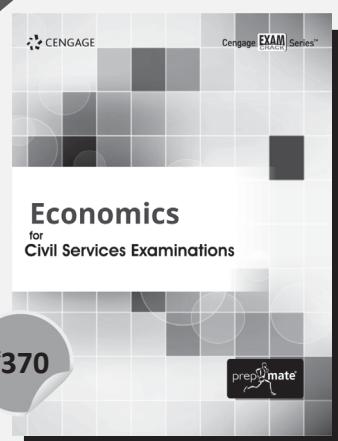
The Centre has brought in LTCG tax while retaining STT as well. So, investors will have to pay both the taxes.

Who Will Be Exempted?

When such a tax is introduced, prior investments get some kind of relief. The relief given is called the grandfathering benefit. While reintroducing the LTCG tax, the government has exempted all gains made prior to January 31, 2018. In other words, all the gains made before January 31, 2018, would be grandfathered.

How Will the Grandfathering Benefit Work?

Let us consider an example. Suppose a person bought shares in May 2017 at ₹1000. The value of these shares was ₹1500



the person sells the shares at ₹1800 in June 2018, then his taxable gains would be ₹300 (₹1800 – ₹1500). The gain of ₹500 (₹1500 – ₹1000) will not be taxed.

Will All Investors Be Subject to LTCG Tax?

LTCG tax is applicable to all investors who trade on stock exchanges. Only foreign portfolio investors (FPIs), who invest in India from places such as Mauritius and Singapore, are not subject to LTCG tax. This exemption is due to double taxation avoidance treaties. Consequently, foreign investors prefer to invest from Mauritius or Singapore route.

However, Centre is reworking on all such double tax avoidance agreements (DTAA). This benefit would be available only till the time the changes are made into treaty.

How Did the Stock Markets React to the Introduction of the Tax?

The benchmark equity indices—Sensex and Nifty—lost significant number of points. The introduction of LTCG tax will increase the cost of stocks trading.

Moody's Upgrade Sovereign Credit Rating of India to Baa2 from Baa3

In November 2017 Moody's Investors Services upgraded India's sovereign ratings to Baa2 from Baa3.

What Does It Mean in Respect of Bonds?

A credit rating evaluates the credit worthiness of a borrower. Corporations and governments issue bonds to borrow money. When we buy a bond, we are lending money to someone—the government or a private company.

Credit ratings represent the ability of the bond issuer to repay. A higher rating implies the bond issuer has a lower likelihood of defaulting on payments.

What Are Sovereign Ratings?

Sovereign credit ratings refer to credit rating of government. It acts as a guide to overall economy's well-being. A favorable rating raises the economy's attractiveness as a global business hotspot and investment destination.

How Are the Ratings Calculated?

There is no specific mathematical formulae. Agencies use multiple sources such as historical trends, public statistics, discussions with government officials and future outlook to determine credit ratings.

What Is the Rating Scale?

From excellent to poor, rating scale is as follows: AAA, AA+, AA, AA-, A+, A, A-, BBB+, BBB, BBB-, BB+, BB, BB-, B+, B, B-, CCC+, CCC, CCC-, CC, C, D. Anything lower than a BBB- rating is considered risky.

Moody's Investors Services has recently upgraded India's sovereign ratings to Baa2 from its lowest investment grade (Baa3).

Who Calculates Credit Rating?

Moody's Standard and Poor's (S&P) and Fitch Ratings are popular credit rating agencies which operate worldwide. Popular Indian credit rating agencies include CRISIL, CARE and ICRA among others.

Whom Does the Credit Rating Benefit?

It is used by individuals and entities that purchase the bonds issued by companies and governments to determine whether the borrower will repay as promised.

What Is a Junk Bond?

Bonds that have higher credit rating are also known as investment-grade bonds. Bonds with very low credit rating are known as junk bonds because of a stronger likelihood of default.

What Has Prompted the Upgrade for India?

The government has undertaken set of reforms—from a nationwide goods and services and tax (GST) to a new insolvency law. India has also jumped to 100th rank (from 130th in last year) in the World Bank's Ease of Doing Business rankings.

Moody's believes that those implemented to date will advance the government's objective of improving the business climate.

How Does Sovereign Rating Affect Economy?

A higher rating could prompt companies to invest. A rating upgrade is seen as sign of a growing economy. Moreover, the cost of government borrowing also reduces.

e-Way Bill

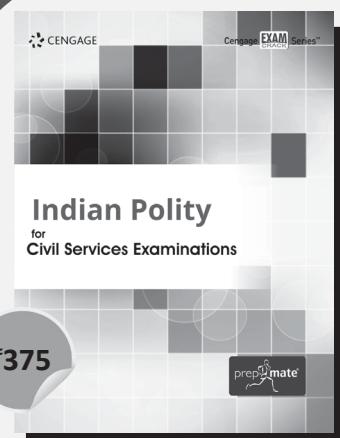
What Is an e-Way Bill?

An electronic way bill or “e-way bill” system, once introduced, will track movements of goods exceeding ₹50,000 in value, for sales beyond 10 km in the new Goods and Services Tax (GST) regime.

The e-way bill system will replace the need for a separate transit pass for every state. A single e-way bill will be valid throughout the country for the movement of goods.

How Will the e-Way Bill System Work?

Every registered supplier will be required to undertake prior online registration on the e-way bill portal before starting the movement of goods. Tax officials will have the power to scrutinize the e-way bill at point during transit to check tax evasion.



When Is an e-Way Bill Generated?

The e-way bill is generated when there is a movement of goods:

- (i) In relation to the supply.
- (ii) For reasons other than a supply (for instance, return of goods).
- (iii) Due to inward supply from an unregistered person.

In this case, a supply can either be

- (i) Sale: Sale of goods and payment made
- (ii) Transfer: Branch transfers, for instance
- (iii) Barter/exchange: Where the payment is by goods instead of in money

Who Should Generate an e-Way Bill?

Registered Person: e-way bill must be generated when there is a movement of goods of more than ₹50,000 in value to or from a registered person. A registered person or the transporter may choose to generate and carry e-way bill even if the value of goods is less than ₹50,000.

Unregistered Persons: Unregistered persons can also generate e-way Bill. However, where a supply is made by an unregistered person to a registered person, the receiver will have to ensure all the compliances are met as if they were the supplier.

Transporter: Transporters carrying goods by road, air, rail, etc., also need to generate e-way Bill if the supplier has not generated an e-way bill.

What Is the Procedure to Generate e-Way Bill?

Any supplier/recipient/transporter can generate an e-way bill. When an e-way is generated, a unique e-way bill number (EBN) is allocated and is available to the supplier, recipient, and the transporter.

Digital facilities via SMS/Android apps will also be provided for the generation of e-way bills. The National Informatics Centre (NIC) has developed a separate portal for the e-way bill.

Once this is generated, there will be no need to fill the requisite information in the GST return, as there will be an automated filing of GSTR-1 (which records the details of sales made).

What Is the Validity of e-Way Bill?

The rules also specify that the permits would be valid for one day for the movement of goods for 100 km, and in the same proportion for subsequent days.

When Will It Be Implemented?

The e-way bill provisions were approved by the GST Council. The e-way bill system will be rolled out from April 1, 2018.

Are There Concerns from Industry?

Industry has raised concerns that the system may create excessive regulations, leading to supply chain bottlenecks, and even discretionary power to tax officials.

Letter of Undertaking (LoU) and PNB Fraud

What Is an LoU?

Letter of Undertaking (LoU) is a guarantee given by one bank to another to meet a liability on behalf of a customer. LoUs are commonly used in international transactions.

LoU involves four parties—(i) an issuing bank (based in India), (ii) a receiving bank (based abroad), (iii) an importer and (iv) overseas supplier (receiver of funds). The receiving bank makes payment to overseas supplier. The LOU issuing bank guarantees the payment of money on behalf of importer. The guaranteeing bank makes payment to receiving bank and in turn, collects funds from importer.

The usual term of an LoU is 180 days, and can be rolled over once for six months. An importer is required to provide funds to the issuing bank within the period of LoU.

How Are LOUs Communicated?

LoUs are conveyed from India-based branch of a bank to foreign-based branch of a bank through Society for Worldwide Interbank Financial Telecommunication (SWIFT) instructions.

On receiving the SWIFT message, the branch abroad releases credit to overseas supplier against import documents. The branch abroad could be branch of domestic bank itself. The credit is essentially a short-term foreign currency loan, on which banks charge 60 to 90 basis points over the London Interbank Offered Rate or Libor, the international benchmark for pricing loans or lending.

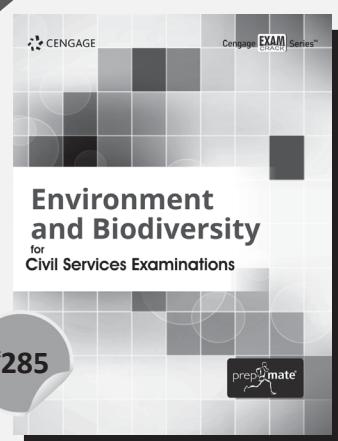
LOUs are regularly used by big importers. Importers prefer this form of funding because the costs of raising money overseas are relatively less.

What Is a SWIFT Instruction?

SWIFT is a secure global financial messaging service used by over 11,000 financial institutions in more than 200 countries. So far, there has been no instance of a breach in SWIFT instructions.

Why Are LoUs Secure?

A SWIFT instruction passes through three layers of checks. It is cleared by a maker, a checker and a verifier before it is sent across. All have different logins independently of each other.



Punjab National Bank Fraud

Punjab National Bank (PNB) has reported fraud of over ₹11,000 crore in its branch at Brady House, South Mumbai. Some PNB employees fraudulently issued Letters of Undertaking (LoUs) and issued SWIFT instructions to the overseas branches of Indian Banks. This was done to raise credit for companies of diamond jeweler Nirav Modi and Mehul Choksi without making entries in the bank system.

What Went Wrong in the PNB Case?

SWIFT transactions are linked to the Core Banking Solution (CBS) of banks.

Core Banking Solution (CBS) is network among banks, which enables customers to operate their accounts, and avail banking services from any branch of the bank on CBS network, regardless of where he maintains his account.

Any transaction linked to CBS of banks is automatically recorded and thereby reviewed by bank officials. In the PNB case, the scamsters allegedly delinked SWIFT from CBS in the case of companies linked to Nirav Modi and Mehul Choksi. The alleged fraud continued for seven years. However, LoUs of other companies were routed through the SWIFT–CBS system.

Will the Alleged Fraud Impact the Banks That Have Lent Money Against the PNB LoUs?

The LoUs were issued for the Hong Kong branches of Allahabad Bank and Axis Bank. These branches have given money to the overseas supplier on behalf of Modi's firms. As a result, PNB will have to settle the LoUs with these branches.

Opening Up the Coal Sector to Private Players

India's coal industry was dominated by the private sector until the Indira Gandhi government passed Coal Mines (Nationalization) Act, 1973, in order to transfer all coal holdings to Coal India. In year 2018, government has again allowed private sector into coal mining.

Presently, Coal India accounts for over 80% of the country's coal supply. Singareni Collieries, a public-sector company, and captive coal mines allotted to private players account for the remaining coal supply. Captive coal mines are allocated for specific end-uses such as in the steel and power industries.

Need for Entry of Private Sector

Still, 70% of electricity is produced by coal-fired thermal plants. In recent years, there has been a significant surge in imports. Coal India has not been able to produce coal for new power plants despite possessing rich coal-bearing belts.

Moreover, the official statement said the higher investment in the coal sector will create employment in coal bearing areas especially in mining sector and will allow the use of best possible technology into the sector.

Legislative Backing

In September 2014, the Supreme Court cancelled the allocation of 204 coal mines to public and private players, after the Comptroller and Auditor General of India found fault with the allocation mechanism. The NDA government passed ordinance to adopt transparent auction process for the affected mines.

Further, the Coal Mines (Special Provisions) Act 2015 was passed by the Parliament to replace the ordinance. Enabling provisions have been made in the Coal Mines (Special Provisions) Act, 2015 for auction and allocation of coal mines.

Basis of Auction

The auction, on an online transparent platform, will be an ascending forward auction, i.e., the bid parameter of the auction will be the price offer in rupees per tonne. The auction price will be paid to the State government on the actual production of coal. There shall be no restriction on the sale and/or utilization of coal from the mine.

Revenue to Be Given to States

The entire revenue from the auction of coal mines will be given to the coal bearing states. Auction mechanism will lead to large collection of revenue which can be utilized for the growth and development of backward areas.

World Economic Outlook Report

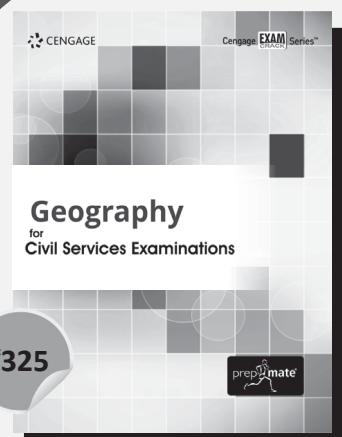
The World Economic Outlook (WEO) is a report published biannually by the International Monetary Fund. It forecasts the condition of the world economy up to four years from date of report. The forecast is also made for more than 180 countries. WEO forecasts include key macroeconomic indicators, such as GDP, inflation, current account and fiscal position.

Projections for India

The International Monetary Fund (IMF) kept its growth projection for India unchanged at 6.7 per cent for the 2017–18. IMF said that India will again emerge as the world's fastest-growing major economy, at least for the next two years. India's growth will rise steadily to 7.4 per cent in 2018–19 and 7.8 per cent in the year after.

Projections for China

China's expansion will slow down to 6.6 per cent and 6.4 per cent in 2018 and 2019, respectively, against 6.8 per cent in 2017.



Global Economy Growth Projections

The IMF raised the global growth forecast by 0.20 per cent to 3.9 per cent for both 2018 and 2019. The growth is set to increase due to higher-than-expected expansion of the US economy and cut in corporate taxes by the Trump administration. The US recently announced the biggest tax cuts in 30 years, bringing the corporate tax rate down from 35 per cent to 21 per cent. Lower corporate tax and interest rate hikes by the Federal Reserve could draw investors from all over the world to the US.

Cabinet Approves Proposal for Amendment to the Micro, Small and Medium Enterprises Development Act, 2006 to Change the Criteria of Classification

The Union Cabinet has approved the change in the basis of classifying Micro, Small and Medium enterprises from “investment in plant and machinery/equipment” to “annual turnover”.

This will make the norms of classification transparent and align them to the new tax regime revolving around GST (Goods and Services Tax).

Change in Law Required

Section 7 of the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 will accordingly be amended to define units producing goods and/or rendering services in terms of annual turnover as follows:

- A micro enterprise will be defined as a unit where the annual turnover does not exceed five crore rupees.
- A small enterprise will be defined as a unit where the annual turnover is more than five crore rupees but does not exceed ₹75 crore.
- A medium enterprise will be defined as a unit where the annual turnover is more than ₹75 crore but does not exceed ₹250 crore.

Additionally, the Central Government may, by notification, vary turnover limits, which shall not exceed thrice the limits specified in Section 7 of the MSMED Act.

Present Criteria

At present the MSMED Act (Section 7) classifies the Micro, Small and Medium Enterprises (MSMEs) on the basis of investment in plant and machinery for manufacturing units, and investment in equipment for service enterprises.

Why Turnover Is a Better Criterion?

Turnover figures are more reliable and objective. Thus, the classification of units will be more accurate. Many government schemes and policies for industry is based on the classification criteria.

CriSidEx

CriSidEx is the India's first sentiment index for micro and small enterprises (MSEs). It was developed jointly by CRISIL and SIDBI.

CriSidEx is a composite index based on eight parameters. It measures MSE business sentiment on a scale of 0 (extremely negative) to 200 (extremely positive). The information for assessing business sentiment will be collected on the basis of survey. The first survey included 1100 MSEs.

CriSidEx will have two indices, one for the “survey quarter” and another for the “next quarter”. The “next quarter” index will be based on past trend.

Benefit of CriSidEx

CriSidEx readings will point out the actual situation in the economy. It will also offer actionable indicators to the government.

International Solar Alliance

The International Solar Alliance is an alliance of more than 120 countries, most of them being sunshine countries, which come either completely or partly between the Tropic of Cancer and the Tropic of Capricorn. The alliance is also called International Agency for Solar Policy and Application (IASPA).

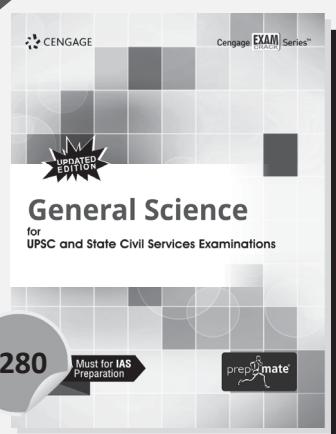
The alliance's primary objective is to work for efficient use of solar energy to reduce dependence on fossil fuels. This initiative was first proposed by Indian Prime Minister Narendra Modi in a speech in November 2015, in which he referred the sunshine countries as *suryaputra* (sons of the Sun). The alliance is a treaty-based intergovernmental organization.

The Framework Agreement of the International Solar Alliance (ISA) opened for signatures in Marrakech, Morocco, in November 2016. The ISA has set a target of 1 TW of solar energy by 2030.

The ISA is headquartered in India. In January 2016, Narendra Modi and the French President, François Hollande, jointly laid the foundation stone of the ISA headquarters and inaugurated the interim Secretariat of the ISA at the National Institute of Solar Energy (NISE) in Gwalpahari, Gurugram.

To achieve its objectives, ISA will undertake following activities:

- Collaboration for joint research and development and sharing knowledge.
- Acquisition, diffusion and absorption of knowledge by member countries.
- Creation of expert groups for development of common standards, their monitoring and verification.
- Development of partnerships among country specific technology centres for supporting technology absorption to promote energy security and energy access.



- Training programmes on different aspects of solar energy in the member countries.
- Encourage joint ventures among companies in the member countries.
- Sharing experiences in field of solar energy development.
- Establish new and innovative financing mechanisms to fund solar energy development.
- Collaborate with international bodies, corporates, and other organizations to promote utilization of solar energy.

Who Are the Member Countries?

The ISA is open to 121 prospective member countries. However, so far only 56 countries have signed the ISA Framework Agreement.

These are Australia, Bangladesh, Benin, Brazil, Burkina Faso, Cabo Verde, Cambodia, Chad, Chile, Comoros, Costa Rica, Cote d'Ivoire, Cuba, Djibouti, Dominican Republic, DR Congo, Equatorial Guinea, Ethiopia, Fiji, France, Gambia, Gabon, Ghana, Guinea, Guinea-Bissau, Guyana, India, Kiribati, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Nauru, Niger, Nigeria, Peru, Rwanda, Sao Tome, Senegal, Seychelles, Somalia, South Sudan, Sri Lanka, Sudan, Suriname, Tanzania, Togo, Tonga, Tuvalu, UAE, Uganda, Vanuatu, Venezuela and Yemen.

First Summit of ISA

India hosted the first summit of the International Solar Alliance (IAS) in March, 2018 at New Delhi. It was co-chaired by Prime Minister Modi and French President Emmanuel Macron.

- (i) India announced \$1.4 billion line of credit to cover 27 projects in 15 countries. It is one of the world's largest investment plans in solar energy.
- (ii) France committed an additional €700 million in loans by 2022 to emerging economies for solar energy projects.

The first summit was attended by 23 heads of states and governments from all over the world. Six vice presidents and deputy prime ministers and 19 ministers, corporations and civil society representatives participated in the mega conference.

Bharat Stage Norms

Bharat Stage Emission Standards (BSES), introduced in 2000, are emission standards that have been set up by the Central government to regulate the output of air pollutants from internal combustion engine equipment, including motor vehicles. The different norms are brought into force in accordance with the timeline and standards set up by the Central Pollution Control Board which comes under the Ministry of Environment, Forests and Climate Change (MoEFCC). The BSES norms are based on European regulations.

In 13 major cities, BS-IV emission standards were put in place in April 2010. BS-IV norms came into effect nationwide from April 2017. The implementation of the BS-V

standard was earlier scheduled for 2019. This has now been skipped. BS-VI, originally proposed to come in by 2024 has been now advanced to 2020, instead.

Why Is It Important?

1. Cities such as Delhi are already being listed among those with the poorest air quality in the world.
2. With other developing countries such as China having already upgraded to the equivalent of Euro-V emission norms a while ago, India has been lagging behind.
3. The experience of countries such as China and Malaysia (which is currently grappling with haze) shows that poor air quality can be bad for business.

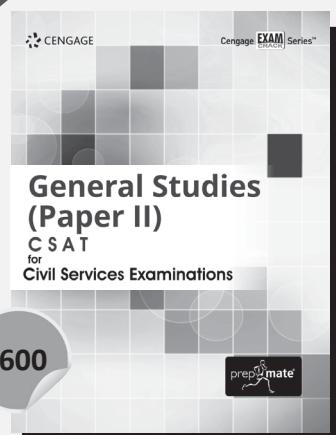
Why BS-VI Compliant Fuel Makes Less Pollution Than BS-IV?

The main difference between BS-IV and BS-VI (which is comparable to Euro 6) is in the amount of sulphur in the fuel. BS-VI fuel has 80% less sulphur content—from 50 parts per million (ppm) to 10 ppm. BS-IV petrol and diesel have 50 ppm of sulphur, as compared to 150 ppm for petrol and 350 ppm for diesel under BS-III standards.

NOx emissions will also reduce by introduction of BS-VI compliant fuel. NOx emissions from diesel engine vehicles will reduce by around 70% and from petrol engine vehicles by around 25%.

Why Are the Challenges in Early Implementation of BS-VI Norms?

- (i) It took seven years for the entire country to shift to BS-IV. This time government seeks to skip BS-V and go directly to BS-VI. It has even preponed the year of implementation to 2020.
- (ii) The introduction of BS-VI fuel will yield benefits only if it is done in conjunction with the rollout of BS-VI compliant vehicles. Using BS-VI fuel in BS-IV vehicles or, conversely, using BS-IV fuel in BS-VI engines may be ineffective in curbing vehicular pollution. The mismatch may even damage the engine in the long run.
- (iii) Partial roll out of BS-IV grade fuel and vehicles in the 13 cities has inherent drawbacks. People preferred BS-III vehicles which were cheaper than BS-IV vehicles. BS-III vehicles could be registered outside the peripheries of designated BS-IV cities. Heavy vehicles such as buses and trucks had no choice. They were forced to stay on with BS-III engines because the fuel outside cities did not conform to BS-IV norms. These vehicles are major contributors to pollution.
- (iv) The complete transition to BS-IV took from 2010 to April 2017, because oil refineries were unable to produce quantities.



Oil refineries made investment of around ₹ 30,000 crore to produce BS-IV fuel. It is believed that the auto industry has made a similar investment.

Oil firms will be required to invest another ₹ 40,000 crore to upgrade to BS-VI. The automobile industry will require the investment of ₹ 50,000 crore. Additional investments by automakers will inevitably raise the prices of vehicles.

- (v) BS-VI compliant diesel engines will require additional component namely diesel particulate filter which will increase the length of the bonnet. The length of the car determines the taxes levied on the car and thus, BS-VI compliant diesel cars will be costlier, which may hamper the sales of these vehicles.
- (vi) Also, DPFs (diesel particulate filters) are difficult to be implemented in Indian low driving speed conditions. At low driving speeds, it is difficult to attain high temperatures of 600 degrees Celsius required to burn the soot in DPF. Consequently, car manufacturers would have to work at 400 degrees Celsius. Usually, diesel is injected to increase the temperature, but excess fuel in the DPF can lead to fire.
- (vii) Additionally, BS-VI vehicles will be fitted with SCR (selective catalytic reduction) module. Its optimization could take an estimated three-four years.
- (viii) For automakers, the big hurdle in jumping directly from BS-IV to BS-VI norms lies in equipping cars with two key fitments, namely diesel particulate filters and selective catalytic reduction and road-testing them within the time schedule. The vehicle has to be thoroughly tested. This would require validation tests over 6–7 lakh km, which may take up to four years.

23rd COP: Bonn Meet

In the Earth summit, United Nation Framework Convention on Climate Change (UNFCCC) was adopted. The Earth Summit was held at Rio de Janeiro, Brazil in 1992. Under UNFCCC, it was agreed that nations would meet annually and arrive at a protocol to reduce carbon emissions. This annual meeting is called Conference of Parties (COP).

The 23rd COP was held in Bonn, Germany, in November 2017. Fiji's Prime Minister, Frank Bainimarama, presided COP 23. Fiji has made history by becoming the first Small Island State to preside over the COP.

The major highlights of the Bonn Meet were as follows:

1. **Fund for mitigation and adaptation:** Focus of developing countries including India is to ensure adequate funds for mitigation, adaptation and compensation. They are seeking implementation of specific agreements for loss and damage which they may suffer due to destructive extreme weather events.

What is the Need of Such Fund?

It is expected that climate change may lead to extreme weather events. Developing countries (which are in tropical regions or island nations) would be most vulnerable to such events. It is in this context that the developed countries should address the demands of developing nations, and resolve the question of financing mitigation, adaptation and compensation.

2. **Transport Decarbonization Alliance:** At the Bonn conference, a new Transport Decarbonization Alliance has been declared. The alliance seeks to promote use of sustainable fuels. Such fuels would be eco-friendly. The alliance also seeks to promote walking and cycling among people.

State of Forest Report, 2017

Forest Survey of India (FSI) publishes report titled “India State of Forest Report (ISFR)” on a biennial basis since 1987. The India State of Forest Report 2017 is 15th such report in the series.

What Does the Report Cover?

The report contains information on forest cover, tree cover, mangrove cover, growing stock inside and outside the forest areas, and carbon stock in India's forests. Special thematic information on forest cover such as hill, tribal districts, and north eastern region has also been given separately in the report.

For the first time, the report contains information on decadal change in water bodies in forest during 2005–15, forest fire, production of timber from outside forest, state-wise carbon stock in different forest types and density classes.

How Has the Data Been Collected?

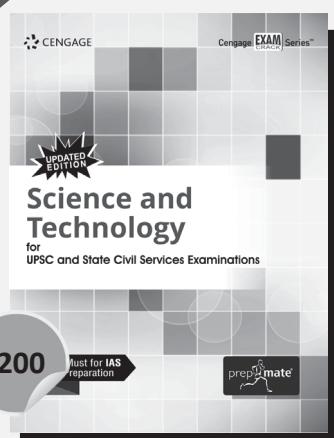
The spatial information given in the report is based on Indian Remote Sensing satellite data. The satellite data is followed by extensive ground data and information from other collateral sources has also been used.

Details of the Report

In comparison to the global trend of decreasing forest cover during the last decade, India has shown an increasing trend in the forest and tree cover.

1. **10th in terms of total forest area:** India ranks 10th in terms of forest area. None of the other 9 countries has a population density of more than 150 persons per sq km. India has a population density of 382 persons per sq km.

As per the India State of Forest Report (ISFR) 2017, India's total forest cover is 708,273 sq km (about 21.54% of India's total geographical area) and tree cover is 93,815 sq km (about 2.85% of total geographical area). Combined forest and tree cover is 8,02,088 sq km or 24.39% of the total geographical area. Dense forest, moderately dense forest and open forest constitute



98,158 sq km (2.98% of total geographical area), 308,318 sq km (9.38% of total geographical area) and 301,797 sq km (9.18% of total geographical area), respectively.

Nine large contiguous patches of the size 10,000 sq km, or more constitute around 40% per cent of the country's forest cover.

Forest Cover

Any land which is more than one hectare in the area and has a canopy density of more than 10%, irrespective of the ownership and legal status, is called Forest Cover.

Dense forest has a tree canopy with density of 70% and above; and moderately dense forest has a tree canopy with density of 40% and more, but less than 70%. Open forest has a tree canopy with density of 10% and more, but less than 40%.

2. **Increase in forest and tree cover:** As per the latest FAO report, India has secured 8th rank among nations, reporting the greatest annual net gain in forest area. As compared to the previous assessment in 2015, there is an increase of 8,021 sq km (about 80.20 million hectare) in the total forest cover and tree cover of the country. The increase in forest cover is 6,778 sq km and tree cover is 1,243 sq km. Overall India's forest cover has increased by only 67,454 sq km since the FSI's first survey in 1987.

3. **State-wise details**

Increase in forest cover: Top 5 states where maximum forest cover has increased are Andhra Pradesh (2,141 sq km), Karnataka (1,101 sq km), Kerala (1,043 sq km), Odisha (885 sq km) and Telangana (565 sq km).

Reduction in forest cover: Top 5 states where forest cover has decreased are Mizoram (531 sq km), Nagaland (450 sq km), Arunachal Pradesh (190 sq km), Tripura (164 sq km) and Meghalaya (116 sq km).

The decrease in forest cover has been observed in the states of North Eastern region where the total forest cover is very high, i.e., more than 70% in each state. The main reasons for the decrease in forest cover are shifting or jhum cultivation, diversion of forest lands for developmental activities, submergence of forest cover on account of hydropower plants, conversion into agricultural land and natural disasters.

Size of forest cover: In terms of area, Madhya Pradesh has the largest forest cover (77,414 sq km), followed by Arunachal Pradesh (66,964 sq km) and Chhattisgarh (55,547 sq km).

Percentage wise forest cover: Lakshadweep (90.33 per cent of total geographical area) has the highest forest cover, followed by Mizoram (86.27 per cent of total geographical area) and Andaman & Nicobar Island (81.73 per cent of total geographical area).

States/UTs above 33 per cent limit: 15 states/UTs have above 33 per cent of the geographical area under forest cover. Among these, seven States/UTs namely

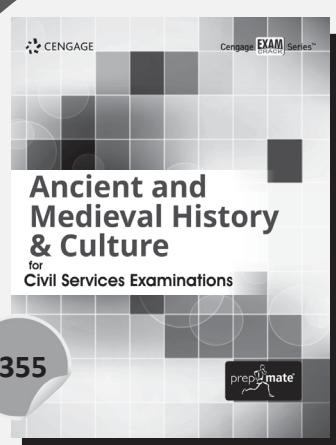
Mizoram, Lakshadweep, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Meghalaya and Manipur have more than 75 per cent of the geographical area under forest cover, while 8 states namely Tripura, Goa, Sikkim, Kerala, Uttarakhand, Dadra & Nagar Haveli, Chhattisgarh and Assam have forest cover between 33 per cent and 75 per cent.

4. **Mangrove cover:** The total mangrove cover is 4,921 sq km, increasing by 181 sq km. Out of 12 mangrove states, 7 have shown an increase in mangrove cover and none of them show any negative change. Maharashtra (82 sq km), Andhra Pradesh (37 sq km) and Gujarat (33 sq km) are the top three gainers in terms of mangrove cover.
5. **Carbon stock:** Carbon stock refers to the amount of carbon stored in the forest ecosystem, mainly in living biomass and soil, and also in dead wood and litter. The total carbon stock in the country's forests is estimated to be 7,082 million tonnes. As compared to the previous assessment, the carbon stock has increased by 38 million tonnes.
6. **Increase in Bamboo bearing area:** The extent of area under bamboo cover in the country has been estimated at 15.69 million ha. In comparison to the last assessment of bamboo cover done in 2011, there has been an increase of 1.73 million ha.
The Government has recently enacted a Bill to take bamboo out of the tree category, where it is grown outside forest areas. This will encourage people to grow bamboo on private lands, which will increase livelihood opportunities for farmers and also enhance the green cover and carbon stock of the country.
7. **Water bodies:** Considering the importance of water bodies in forest, FSI has assessed water bodies present within forest cover for the decade 2005–15. As per the assessment, there is an increase of 2,647 sq km in the water bodies within the forest cover between the period 2005 and 2015.

Government Schemes to Support Forest and Tree Cover

Government schemes have contributed to the increase in forest and tree cover. Such schemes are Green India Mission, National Agro-Forestry Policy (NAP), REDD Plus Policy, Joint Forest Management (JFM), National Afforestation Programme and Funds under Compensatory Afforestation to States.

Further, Green Highways (Plantations and Maintenance) Policy to develop 1,40,000 km long tree line with plantation along with both sides of national highways will go a long way in enhancing the forest and tree cover.



Moving towards Achieving NDC (Nationally Determined Contributions) Goal

India is moving towards achieving its NDC goal of creating additional carbon sink of 2.5 to 3.0 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.

Super Blue Blood Moon

A super blue blood moon occurred on January 31, 2018. It is an astronomical event in which moon exhibits three characteristics at the same time: blood moon, blue moon and super moon. In other words, it is a red moon which is both blue and super moon.

This coincidence last occurred on December 30, 1982 for the eastern hemisphere, and otherwise before that on March 31, 1866. The next occurrence will be on January 31, 2037. A super blue blood moon occurs after every 19 years with few exceptions.

Super moon: ‘Super moon’ means a full moon that is at the closest position from the earth along its orbit. The closest position of the moon from the earth is called perigee. The moon appears largest at perigee. Apogee is the farthest position of the moon from the earth. The super moon is 14% larger than the apogee full moon and 30% brighter

Blue Moon: A second full moon in one calendar month is usually called a “blue moon” and this occurs approximately every 3 years. The saying “Once in a blue moon” refers to something that does not happen often (like a blue moon).

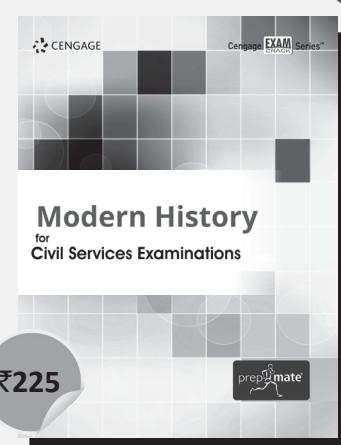
Blood Moon: During the peak phase of the total lunar eclipse, the moon appears reddish or copper-red in colour. This is because even though the moon is in the shadow of the earth, some light does reach it. Out of the light reflected by the moon, fine particles in the atmosphere scatter the blue component, and longer wavelength red light reaches us.

Conclusion

To conclude, a blue moon means it is the second full moon to occur in a month; and a super moon means it was closer to the earth than usual. Blood moon refers to the typical red color of the moon during a total lunar eclipse.

Cyclone Ockhi

Ockhi was the tropical cyclone which hit the western coast of India on November 30, 2017. The name Ockhi was given by Bangladesh, which in Bengali means ‘eye’.



What Is a Cyclone?

A cyclone is a system of winds rotating inwards to an area of low pressure, with an anticlockwise (northern hemisphere) or clockwise (southern hemisphere) circulation. Cyclones are also called depressions. They bring strong winds, rainfall, or snowfall.

Tropical Cyclones

A tropical cyclone is an intense low-pressure area or a whirl in the atmosphere over tropical or subtropical waters. From the centre of a cyclonic storm, pressure increases outwards. The rate at which the pressure increases determines the strength of the cyclone. As per the criteria adopted by the India Meteorological Department, the low-pressure systems are classified in the following categories:

- Low-pressure areas with maximum sustained surface winds of speed between 31 and 61 km/h are classified as tropical depressions.
- Wind speeds between 62 and 88 km/h are called tropical cyclones. Once the winds attain such a speed, the tropical cyclone is assigned a name.
- When the wind speed is between 89 and 118 km/h, it is called a severe cyclonic storm.
- When the wind speed is between 119 and 221 km/h, it is called a very severe cyclonic storm.
- When the wind speed exceeds 221 km/h, the cyclone is called a super cyclonic storm.

Naming of Tropical Cyclones

The naming of tropical cyclones facilitates ease of communication about the tropical cyclone among general public and weather experts. Moreover, if at the same time two or more cyclones affect the same region, naming can help in the identification of a particular cyclone.

Naming of tropical cyclones was first adopted in World War II in some regions. By mid-1960s, all the regions, except North Indian Ocean, began using names for tropical cyclones. In 2003, North Indian Ocean also began the practice of naming tropical cyclones.

Various regional organizations comprising member nations prepare a predetermined list of names.

These names are used in a sequential order. The list of Northern Indian Ocean tropical cyclone names is as follows:

List of Northern Indian Ocean tropical cyclone names

List	Contributing nation							
	Bangladesh	India	Maldives	Myanmar	Oman	Pakistan	Sri Lanka	Thailand
1	Onil	Agni	Hibaru	Pyarr	Baaz	Fanoos	Mala	Mukda
2	Ogni	Akash	Gonu	Yemyin	Sidr	Nargis	Rashmi	Khai-Muk
3	Nisha	Bijli	Aila	Phyan	Ward	Laila	Bandu	Phet

4	Giri	Jal	Keila	Thane	Murjan	Nilam	Viyaru	Phailin
5	Helen	Lehar	Madi	Nanauk	Hudhud	Nilofar	Ashobaa	Komen
6	Chapala	Megh	Roanu	Kyant	Nada	Vardah	Maarutha	Mora
7	Ockhi	Sagar	Mekunu	Daye	Luban	Titli	Gaja	Phethai
8	Fani	Vayu	Hikaa	Kyarr	Maha	Bulbul	Pawan	Amphan

What was Special About Ockhi?

Cyclones are known to hit the east coast of India. These cyclones originate in the Bay of Bengal.

Rarely, cyclones hit the west coast of India. In fact, on average the Bay of Bengal side witnesses four times more cyclones than the Arabian Sea side.

However, Ockhi originated near the south-western coast of Sri Lanka. It travelled along the coasts of Tamil Nadu and Kerala, towards the Lakshadweep islands, where it was most powerful.

It weakened considerably thereafter and continued further in north-easterly direction towards the Maharashtra and Gujarat coastline. Usually, cyclones do not occur in this region.

Why Does the Bay of Bengal Have More Cyclones Than the Arabian Sea?

1. Cyclones which develop in Bay of Bengal region move under the influence of trade winds towards the east coast of India. On the other hand, cyclones which develop in Arabian Sea move under the influence of trade winds towards Africa.
2. The relatively colder waters of the Arabian Sea are not conducive to the formation and intensification of cyclones.
3. The eastern coast of India receives cyclones that form not just in the Bay of Bengal but also those travelling from the Pacific Ocean, where the frequency of “low pressure regions”, is quite high.

Cyclones weaken considerably after encountering a big landmass. Therefore, the cyclones hitting east coast do not travel to the Arabian Sea side. The western coast of India thus witnesses only those cyclones that originate locally or the ones, like Ockhi, that travel from the Indian Ocean near Sri Lanka.

How Powerful Was Ockhi?

Ockhi was described as a “very severe cyclonic storm”, the third strongest category according to the definitions used by the India Meteorological Department (IMD).

Cyclones are categorized by the maximum wind speed they generate. At its most powerful, Ockhi had wind speeds between 155 and 165 km/h.

Cyclone Forecasts by the IMD in the Recent Past Have Been Made Five to Six Days in Advance, thereby Minimizing the Damage Caused. Was the IMD Late in Issuing a Warning for Ockhi?

The time duration between the forecast and the actual cyclone depends upon the

distance from the place where the cyclone is emerging. Many of the big cyclones in recent years, like Phailin in 2013, Hudhud in 2014 or Vardah in 2016, developed near the Andaman Sea. From there, it took cyclones about five to six days to hit the Andhra Pradesh or Odisha coasts.

These forecasts are made only after an emerging depression is detected to have the properties of a cyclonic storm.

However, the origin of Ockhi was much closer. The cyclone formation was detected during the morning of November 29, 2018. An alert was issued around noon. But many areas in Tamil Nadu and Kerala coast were impacted on November 30. A day later, the Lakshadweep islands were impacted due to Ockhi cyclone.

The International Campaign to Abolish Nuclear Weapons (ICAN)

It is a non-profit organization that acts as a global umbrella body for groups working to end nuclear weapons. ICAN was launched in the year 2007. The headquarter of ICAN is based in Geneva, Switzerland.

Treaty on Prohibition of Nuclear Weapons

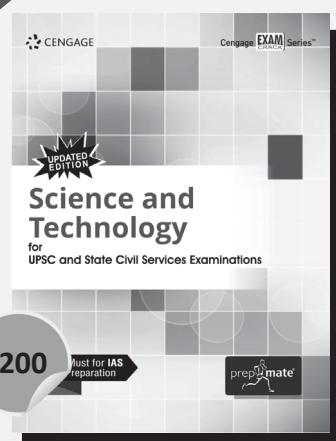
ICAN is the body behind the Treaty on the Prohibition of Nuclear Weapons, or the Nuclear Weapon Ban Treaty. The treaty has the goal of complete elimination of nuclear weapons. It is the first legally binding international agreement to comprehensively prohibit nuclear weapons. In order to come into effect, the treaty requires ratification of at least 50 countries.

Provisions of the Treaty

The treaty prohibits member nations from testing, development, production, stockpiling, transfer, use and threat to use of nuclear weapons. The treaty also bans assistance and encouragement to the prohibited activities.

The treaty also provides time-bound framework for elimination of nuclear weapons of existing nuclear weapon states.

The treaty was negotiated under the aegis of United Nations. Negotiations were concluded in July 2017. Nations voted on the treaty. 122 were in favor, 1 voted against (the Netherlands), 1 abstained (Singapore) and 69 nations (including all the nuclear weapon states and all NATO members, except the Netherlands) did not vote. None of the nine known nuclear powers in the world approved the treaty.

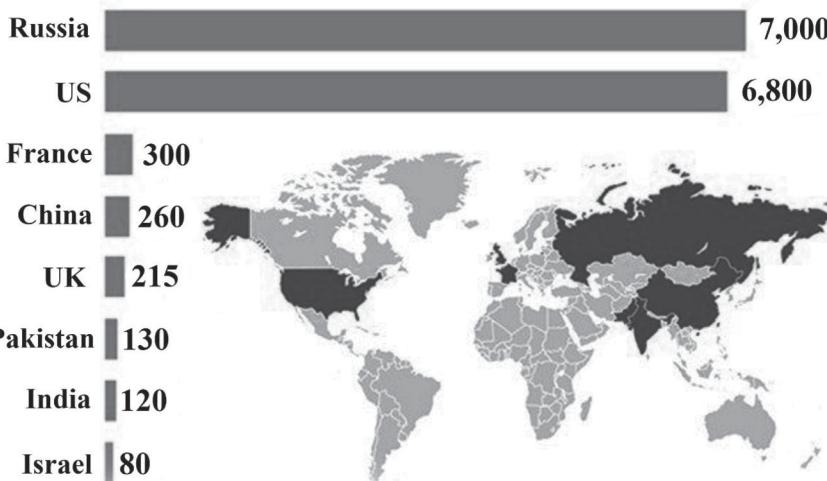


ICAN Won Nobel Prize 2017

The International Campaign to Abolish Nuclear Weapons (ICAN) won the Nobel Peace Prize for its efforts to rid the world of nuclear weapons.

Nuclear Weapons with Various Countries

- At present, there are an estimated 14,905 nuclear warheads.
- Russia and the United States are pursuing disarmament. They have eliminated over 5,000 warheads.



North Korea has material for 10-20 warheads but there is no indication of operational warheads

India and the Four Weapon Control Groups

1. Missile Technology Control Regime

The Missile Technology Control Regime (MTCR) was established in 1987 to prevent members from exporting missiles capable of delivering any weapon of mass destruction, with special focus on missiles capable of carrying 500-kg payload over at least 300 km, and on equipment, technology software for such missiles.

It is in nature of informal and voluntary partnership. Being voluntary in nature, it places no legal obligations on its members, and has no enforcement mechanism.

It has 35 members including India. In June 2016, India was given membership of MTCR. China is not a member of MTCR.

Advantages of Securing MTCR Membership

- The membership of MTCR strengthens India's credibility, thereby enabling India to import missile or technology from other countries. India is the only unrecognized nuclear power that is a member of MTCR.
- Specifically, India makes a supersonic cruise missile, the Brahmos, in a joint venture with Russia. On account of restrictions imposed by MTCR, in the past,

Russia could co-develop Brahmos with maximum range of 290 km. After India became member of MTCA, Russia can develop long-range Brahmos with India. Consequently, both the nations are developing Brahmos missile of 600 km range.

2. Wassenaar Arrangement

It is an arrangement to control the export of conventional arms and dual-use goods and technology. Dual-use goods and technology refer to goods and technology which can be used for both civilian and military purposes. It has 42 members including India. India was admitted as a member in December 2017. China is not a member of WA.

It was established in 1996, in Wassenaar, the Netherlands, which is near The Hague. The Wassenaar Arrangement focuses primarily on the transparency of national export control regimes. Every six months, member countries are required to exchange information on deliveries of conventional arms to non-Wassenaar members. It is not a treaty, and therefore is not legally binding.

Advantages of Securing Membership of Wassenaar Arrangement

Membership of Wassenaar Arrangement would help India in meeting non-proliferation objectives. Moreover, place in Wassenaar Arrangement will strengthen the case for NSG membership.

3. Australia Group

The Australia Group (AG) was established in the year 1985 to help member countries identify those exports which can be used to develop chemical and biological weapons. The group came into existence after use of chemical weapons by Iraq on Kurds in the year 1984. Kurds are a minority community in Iraq.

The group was named so because it was formed with the initiative of Australia. Australia also manages the secretariat. The group is also in nature of informal partnership. Presently, the group has 43 members including India. India was given membership in January 2018. China is not a member of the AG.

Advantages of Securing Membership of Australia Group

Before becoming member of AG, India was already member of MTCA and WA. Membership of AG has further added to India's credibility as responsible power. Moreover, membership of AG has made India's case for NSG membership even stronger.

4. Nuclear Suppliers Group

Nuclear Suppliers Group (NSG) is a group of nuclear supplier countries that seek to prevent nuclear weapons proliferation by controlling the export of materials, equipment and technology that can



be used to manufacture nuclear weapons. The group was found in response to the nuclear test by India in the year 1974 as the test demonstrated that certain non-weapon nuclear technology could be readily used for weapons development.

As of 2017, NSG has 48 member nations that supply nuclear material, equipment or technology for civilian purposes to only those countries that have signed Non-Proliferation Treaty (NPT), India being the only exception. India received a special waiver from NSG in the year 2008.

India Seeking NSG Membership

India has applied for the membership of NSG. While a majority of the 48-member group backed India's membership, China along with few other countries are opposed to India's admission.

To be a member of NSG, a nation requires the vote of all the present 48 nations. China is not supporting India for membership of NSG. China argues that India is not a signatory to Nuclear Non-Proliferation Treaty (NPT). All other members of NSG are signatories to NPT. China further argues that if non-NPT nations are made members of NSG, then there should be particular criteria for admission and India should not be given unconditional waiver. India is opposed to any such criteria because Pakistan, which is also seeking membership of NSG, may also be given membership (on the basis of same criteria) along with India.

Significance of NSG Membership for India

1. Membership of NSG will increase India's access to state-of-the-art nuclear technology from members of the Group.
2. As per India's commitment under the Paris climate agreement, it has to ensure that 40% of its energy is sourced from renewable and clean sources by 2030. In order to achieve this target, India needs to scale up nuclear power production. This can only happen if India gains access to NSG.
3. Some nations are restricted by regional treaties to provide access of nuclear fuel and technology to India. For instance, African nations cannot supply uranium to India on account of Pelindaba Treaty. If India joins the NSG, such restrictions are expected to be done away with.

Common Members of Four Weapon Control Groups

1. Argentina	6. Canada	11. Germany	16. Japan	21. Poland	26. Switzerland
2. Australia	7. Czech Republic	12. Greece	17. Luxembourg	22. Portugal	27. Turkey
3. Austria	8. Denmark	13. Hungary	18. Netherlands	23. Republic of Korea	28. Ukraine
4. Belgium	9. Finland	14. Ireland	19. New Zealand	24. Spain	29. United Kingdom
5. Bulgaria	10. France	15. Italy	20. Norway	25. Sweden	30. United States

Nuclear Suppliers Group Members	Missile Technology Control Regime Members	Wassenaar Arrangement Members	Australia Group Members
31. Belarus	40. Lithuania	31. Croatia	31. Croatia
32. Brazil	41. Malta	32. Estonia	32. Cyprus
33. China	42. Mexico	33. India	33. Estonia
34. Croatia	43. Romania	34. Russian Federation	34. Iceland
35. Cyprus	44. Russian Fed.	35. South Africa	35. India
36. Estonia	45. Serbia		36. Latvia
37. Iceland	46. Slovakia		37. European Union
38. Kazakhstan	47. Slovenia		
39. Latvia	48. South Africa		

Nepal Elections 2017

The new constitution passed in 2015 declared Nepal a federal state. The 2017 elections were intended to decentralize power from the centre to the newly created seven provinces.

Composition of Federal Parliament

The federal parliament is a bicameral legislature consisting of National Assembly (NA) and House of Representatives (HoR).

- National Assembly (NA) has 59 members. The members are chosen through indirect election.
- House of Representatives (HoR) has 275 members, 60 per cent of representatives are chosen through first-past-the-post (FPTP) system, while the remaining 40 per cent are chosen through a Proportional Representation (PR) system.

It was the first parliamentary election since 1999. Voters also chose representatives to seven provincial assemblies for the first time since Nepal turned into a federal republic and abolished the monarchy in 2008. One-third of the seats were reserved for women.

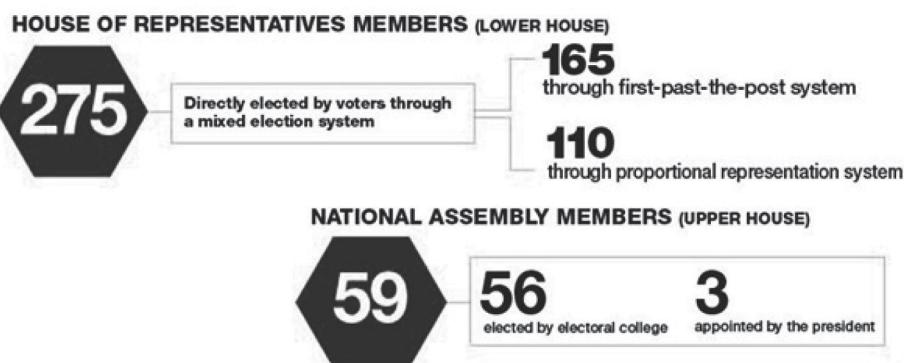
Under-representation of Terai Region People

People in the Terai region (Southern Nepal) complain under-representation of their communities. They say the boundaries of the newly created provinces favor the people from the hills. Traditionally, people from hills have dominated Nepal's politics.

Forms of Government

The leader of the party that wins a simple majority in House of Representatives is invited to form the government. Prime Minister is the real head and the president has only nominal power.

Nepal elections 2017



Election Results

In the recently concluded elections for the House of Representatives (Nepal's lower house) and provincial assemblies of Nepal, the two communist parties, the Communist

Party of Nepal-Unified Marxist-Leninist (CPN-UML) and CPN (Maoist Center)—together called left alliance—won a landslide victory. Following the announcement of the result by the Election Commission, K.P. Oli of CPN (UML) was sworn in as Prime Minister in February 2018.

Possible Implications for India

Left alliance is ideologically closer to Maoist China, then to India. Consequently, it may happen that Nepal may slide towards China at cost of its ties with India.

Political Instability in Maldives

Political History of Maldives

Up till 2008, Mr. Gayoom ruled Maldives for three decades at a stretch. President was the supreme executive as well as judicial authority.

Following mounting pressure from public, democratic reforms were initiated. The new Constitution was adopted on August 7, 2008. The constitution enshrined the principles of separation of powers and independence of the judiciary. In October 2008, Mohamed Nasheed won the first democratic presidential elections in the Maldives and parliamentary elections were held in May 2009.

Why Did His Presidency End?

In February 2012, Mr. Nasheed resigned from office. He had to resign due to protest by opposition supporters. The protests took place in response to the arrest of a Supreme Court judge, who was considered as an ally of Mr. Gayoom.

However, Mr. Nasheed claims that he had to resign because he was forced to do so at gun point. The Vice-President, Mohamed Waheed, became president in place of him. Mr. Waheed was also the strongest candidate for 2013 elections. However, Abdulla Yameen won by a narrow margin. Yameen is presently serving as the President and is the half-brother of Mr. Gayoom. Yameen no longer shares amicable relations with Mr. Gayoom.

Role of Mohamed Nasheed

Prior to becoming President, he had contributed as a climate change and pro-democracy activist. He is also one of the founders of the Maldivian Democratic Party (MDP).

He was arrested several times during the term of his predecessor Maumoon Abdul Gayoom. Because of his frequent arrests, he was regarded as the “Mandela of the Maldives”. He was also an Amnesty International prisoner of conscience.

Where Is Mohamed Nasheed Now?

Since 2016, following a controversial criminal conviction, Mr. Nasheed has been living in exile (mostly in London).

In March 2015, a criminal court convicted Nasheed on the charge of terrorism and

sentenced him for 13 years. The ruling is seen as an attempt to keep Mr. Nasheed out of politics. Countries, including the United States and India, have voiced concern over the charges. In May 2016, the United Kingdom granted Mr. Nasheed political asylum, when he was in London for medical treatment. Mr. Nasheed was educated for 6 years in England.

Supreme Court Order in February 2018

In February 2018, Maldives Supreme Court ordered release of political prisoners including former President Mohamed Nasheed and 12 members of Parliament. These members were earlier disqualified. Once these members join the Parliament, opposition coalition will have majority. Thus, President Abdulla Yameen would be vulnerable to impeachment.

The court argued that free and fair trials were not conducted against political prisoners. The court annulled the earlier orders which held conviction of political prisoners and ordered their release. The court did not order the dismissal of the charges against them. The court is of the view that a fair retrial should be held.

Reaction of Mr. Yameen

Mr. Yameen declared emergency, and troops arrested the Supreme Court Chief Justice and another judge. Soon after, the remaining three judges revoked the order and canceled the release of the opposition members of Parliament. The Yameen administration's move of declaring emergency has received sharp international criticism.

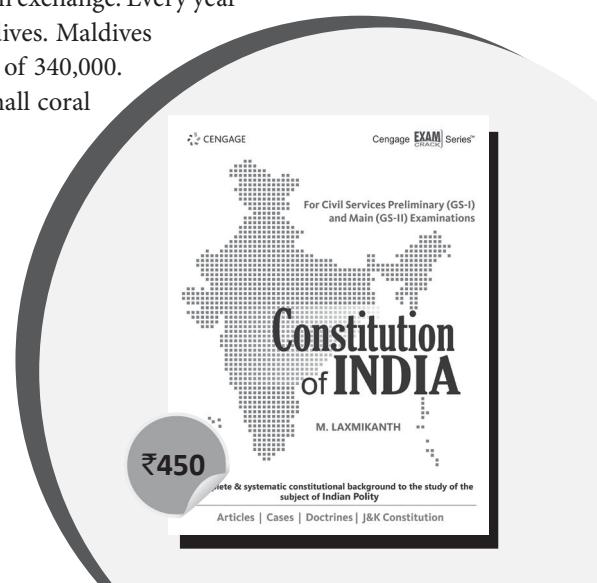
Mr. Nasheed is heading a coalition of various opposition parties. Mr. Gayoom, who leads a break-away faction of the Progressive Party of Maldives (PPM), and leaders from the Jumhooree Party and the Adalath Party have joined him in times of crisis.

Impact of Political Instability on Maldives

The continuing political instability in the Maldives is likely to damage tourist trade, important part of GDP and source of foreign exchange. Every year more than a million tourists visit the Maldives. Maldives is a Sunni Islam nation with a population of 340,000. Geographically, it is composed of 1,192 small coral islands.

Response by Government of India

India rejected an offer by Maldivian President Abdulla Yameen to send a special envoy to discuss the ongoing emergency in the country. Rather, India asked the President to first end the emergency and restore rights of people. The response



indicates a growing strain in ties between India and Maldives.

President Yameen has taken help of China. China has deployed its naval ship adjoining Maldives in the Indian Ocean, to put pressure on other nations, particularly India from intervening into Maldives.

Access to Strategic Oman Port Duqm for Military Use

Location of Duqm Port

The Port of Duqm is situated on the southeastern coast of Oman, overlooking the Arabian Sea. It is located in close proximity to the Chabahar Port in Iran.



Pact on Duqm Port

In 2018, India has secured access to the key Port of Duqm in Oman for military use and logistical support.

Memorandum of Understanding on Military Cooperation was signed between Prime Minister Narendra Modi and Sultan of Oman Sayyid Qaboos bin Said Al Said. Following this pact, the services of Duqm Port and Drydock will be available for maintenance of Indian military vessels.

Recent Use of the Port by India

Recently, Duqm has seen a rise in Indian activities. In September 2017, India deployed a submarine on this port along with naval ship INS Mumbai and two P-8I long-range maritime patrol aircraft. The naval units were deployed with the aim of enhancing surveillance of the region.

Expected Benefits to India

1. This is part of India's maritime strategy to counter Chinese influence and activities in the region. The port is located near the Persian Gulf through which half of world's oil tankers pass. It is also near the Chabahar Port of Iran.
2. The Port of Duqm also has a special economic zone, where about \$1.8 billion investments are expected to be made by Indian companies.

India—ASEAN Dialogue

The dialogue mechanism between India and ASEAN began in 1992. India and ASEAN observed 25 years of their Dialogue Partnership in the year 2017. The year 2017 also witnessed 50 years of formation of ASEAN. A Commemorative Summit on the theme of "Shared Values, Common Destiny" was held on January 25, 2018 in New Delhi.

India–ASEAN Summit at Delhi, 2018

India—ASEAN is the regular dialogue of India with ASEAN nations.

What Is Special about India–ASEAN Summit at Delhi, 2018?

The Summit in year 2018 marks the 25 years of Indo–ASEAN ties. The ASEAN leaders were also the chief guests at the Republic Day Parade in Delhi.

Important Issues Discussed During the Meet: Delhi Declaration

- Freedom of navigation in South China Sea:** During address to the leaders of the ASEAN countries, Prime Minister Narendra Modi said that freedom of navigation is at the heart of India—ASEAN cooperation.

What is the threat to freedom of navigation?

The India—ASEAN meet discussed the need for freedom of navigation in South China Sea. China claims South China sea as its territory. China is attempting to control the navigation rights in South China sea.

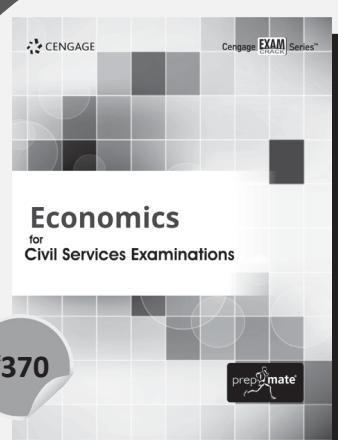
- RCEP:** With an aim to further trade ties, India and ASEAN decided for quick conclusion of Regional Comprehensive Economic Partnership (RCEP) in 2018. It is a proposed free trade agreement (FTA) between the 10 member states of the ASEAN and 6 other nations, namely Australia, China, India, Japan, South Korea and New Zealand.

In year 2017, India's trade with ASEAN was \$76 billion. It is much lower than ASEAN's trade with not just the US and China, but also South Korea, Japan and Australia.

- Highway project:** India and ASEAN will also work towards faster conclusion of the India–Myanmar–Thailand Trilateral Highway Project. It was also decided to extend this trilateral highway to Cambodia, Laos and Vietnam.
- Maritime cooperation:** The meet also emphasized on the need to promote maritime transport cooperation between ASEAN and India. Towards this end, it was decided to involve private sector in the development of ports and maritime logistics network.

Issue of Jerusalem

Jerusalem is the ancient city that is sacred to Jews, Muslims and Christians. After the end of the first Arab–Israel War in 1948, Jerusalem was partitioned into West and East, under Israeli and Palestinian control, respectively. However, in June 1967, during the Six-Day Arab-Israel War, Israel occupied East Jerusalem from Jordanian forces, and Israel's Parliament declared the territory had been "annexed to Israel" and Jerusalem had been "reunited".



Annexation of East Jerusalem marginalized the Palestinians. Palestinians want to make East Jerusalem as their capital under the “two-state solution”. To enhance its control, Israel added over 200,000 Jewish settlers to East Jerusalem. In December 2016, the UN reaffirmed that East Jerusalem is the territory of Palestine and is presently under “hostile occupation”. Foreign embassies to Israel are in Tel Aviv, not Jerusalem.

Why Is Jerusalem So Important?

Jerusalem has the Western Wall, part of the mount on which the Holy Temple stood, containing the most sacred Jewish site; Al-Aqsa Mosque, the third holiest site in Islam; and the Church of the Holy Sepulchre, where Jesus is believed to have been crucified, and where he rose again. Millions visit these shrines.

About 37% of Jerusalem's population are Arabs. However, Palestinians live in Jerusalem with residence permits that can be revoked anytime. Palestinians live in separate enclaves and the development funds are also used in discriminating manner. There have been reports of Israeli soldiers targeting Palestinian civilians.

US Recognition of Jerusalem as the Capital of Israel

In December 2017, President Donald Trump recognized Jerusalem as the capital of Israel. Trump recognizing Jerusalem as the capital solely of Israel is symbolic of a huge policy shift.

How Have Other Countries Reacted?

- The Islamic world is outraged.
- Jordan's King Abdullah II and Saudi King Salman have cautioned the US. Turkey has threatened to cut ties with Israel.
- Iran has declared that the Palestinian nation will achieve victory.
- China has said that it could sharpen regional conflict.
- Several European nations have expressed grave reservations.

OIC Notified East Jerusalem as Palestine's Capital

Turkish President Recep Tayyip Erdogan convened in Istanbul an emergency summit of Organization of Islamic Cooperation (OIC). The summit was called in response to the recognition of Jerusalem as Israel's capital by the US President Donald Trump.

The Summit declared “East Jerusalem as the capital of the State of Palestine” and invited “all countries to recognize the State of Palestine and East Jerusalem as its occupied capital”.

Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPTPP)

CPTPP

It is a trade agreement between Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam. The United States was initially a

member of the agreement, but it withdrew in January 2017. The earlier version of the agreement was called Trans-Pacific Partnership (TPP).

Previous Version

The agreement was signed in February 2016, after seven years of negotiations. It could not be ratified by respective legislatures' due to US withdrawal from the agreement. The United States under Obama administration signed the agreement, but Trump administration withdrew from the agreement.

Why Did US Withdraw from the Agreement?

Trump is of the view that the United States needs to re-negotiate its trade agreements as it is giving more concessions to member nations, than it is seeking from them. Greater concessions to member nations would enhance imports of America and consequently lead to fall in output and employment.

What Is TPP without the US?

When Donald Trump abandoned the 12-nation Trans-Pacific Partnership (TPP), there were doubts whether the trade agreement would survive. United States contribute 60% of the combined Gross Domestic Product of the 12 members. Japanese Prime Minister Shinzo Abe had termed the TPP without the United States as 'meaningless'.

CPTPP: Future of TPP

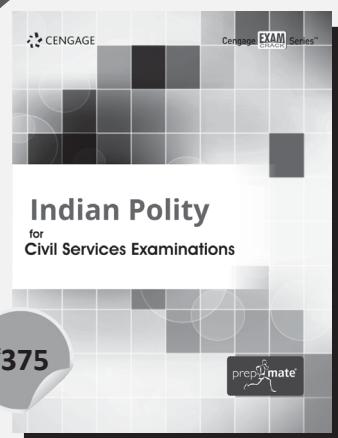
Remaining 11 nations have signed a new pact, named the Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPTPP). The agreement will come into effect after ratification by member nations. The ratification process is expected to be complete by 2019.

Implication for the US

Withdrawn of the US from multi-lateral agreements may diminish its say and power in the long term. It will also reduce the dependence of other nations on the US.

Transatlantic Trade and Investment Partnership (TTIP)

The earlier version of TPP was considered as the companion agreement to the proposed Transatlantic Trade and Investment Partnership (TTIP), a broadly similar agreement between the United States and the European Union. Presently, negotiations on TTIP are also sidelined.



Regional Comprehensive Economic Partnership (RCEP)

It is a proposed free trade agreement (FTA) between the 10 member states of the ASEAN and 6 other nations, namely Australia, China, India, Japan, South Korea and New Zealand.

RCEP is also viewed as an alternative to the Trans-Pacific Partnership (TPP), a trade agreement which includes several Asian and American nations but excludes China and India.

European Bank for Reconstruction and Development (EBRD)

The European Bank for Reconstruction and Development (EBRD) was set up in 1991 immediately after the collapse of communism in the Eastern Europe. As a multilateral developmental investment bank, the EBRD uses investment as a tool in order to promote private businesses and entrepreneurship.

The initial focus of the bank was on the countries of the former Eastern Bloc. Presently, it supports development in more than 30 countries from central Europe to central Asia. The bank only lends in its countries of operations.

The EBRD is owned (members) by 66 countries from five continents, as well as the European Union and the European Investment Bank. United States is the largest shareholder. Its headquarters are in London. The European Investment Bank (EIB) is owned by EU member states and is used to support EU policy.

EBRD and India

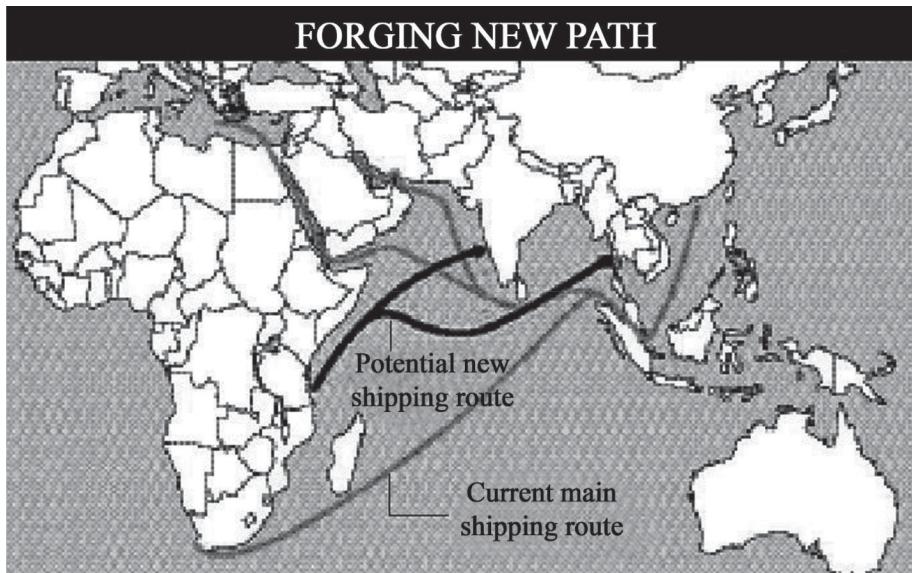
India is about to become a member country of EBRD. The Union Cabinet chaired by the Prime Minister Narendra Modi has approved India's membership for the European Bank for Reconstruction and Development (EBRD).

Necessary steps will be initiated by the Department of Economic Affairs, Ministry of Finance to acquire the shares of the EBRD.

Potential Benefits of Membership

1. Membership of EBRD would enhance India's international stature and promote its economic interests.
2. New investment opportunities would be available to India. For example, it would also enhance the scope of cooperation between India and EBRD through co-financing opportunities.
3. EBRD's core operations centre around private sector development. The membership would help India to access the technical assistance and sectoral knowledge of the bank related to the development of private sector.
4. The membership of EBRD would also benefit the Indian firms by providing them enhanced access of international markets in terms of business opportunities, consultancy assignments, etc.

Asia–Africa Sea Corridor



Who Mooted the Idea?

In May 2017, Prime Minister Narendra Modi made the announcement for developing an Asia–Africa Growth Corridor (AAGC). The announcement was made while addressing the annual general meeting of the African Development Bank (AfDB) in Gujarat's capital of Gandhinagar. Indian plans to develop AAGC with the support from Japan.

What Is Asia–Africa Growth Corridor?

The Asia–Africa Growth Corridor (AAGC) is an attempt to rediscover ancient sea routes and create new sea corridors that will link the African continent with India and countries in South-Asia and South-East Asia. The sea corridors will facilitate “low-cost” transportation and will also have “less carbon footprint” when compared to a land corridor.

How Will Japan and India Contribute to the Project?

Apart from developing sea corridors, the AAGC also proposes to build robust infrastructure in Asian and African countries. India is already developing its ports under the Sagarmala programme. The idea is to integrate economies in Asia and Africa.

What Will Be the Contribution of Japan?

Japan will contribute technology and ability to build quality infrastructure, while India will bring its expertise of working in Africa. The private sector of both countries are expected to play big role in realization of AAGC.

Where Did the Idea of AAGC Originate?

The idea of AAGC was first mentioned in the joint declaration issued by Prime Ministers Modi and Shinzo Abe in November 2016.

What Is the AAGC Vision Document?

The AAGC vision, a 30-page booklet, document was released by the Indian and Japanese government officials at the African Development Bank (AfDB) annual general meeting held in Gandhinagar. It is just a broad framework for the creation of the project.

How Is AAGC Different from OBOR?

- Unlike OBOR which entails development of a land corridor, AAGC will essentially be a sea corridor linking Africa with India and other countries of South-East Asia and Oceania.
- AAGC is more consultative, because this was one objection India came up with when OBOR was presented. AAGC will involve consultation among the beneficiary countries.
- AAGC will be funded by banks, unlike the “government-funded model” of OBOR (One Belt One Road) project.
- The focus of AAGC is people in Africa, rather than excessive emphasis on trade and economic relations alone.

SC Upholds Passive Euthanasia

The Supreme Court has upheld passive euthanasia. Even a patient has the right to give advance medical directives or “Living Wills” for passive euthanasia.

What Is Passive Euthanasia?

Passive euthanasia is the act of withdrawing or withholding medical support to a dying patient who has no hope for revival or cure.

Arguments by Supreme Court

A Supreme Court Constitution Bench held that the fundamental right to dignified life under Article 21 of the Constitution includes the “right to die with dignity”. A person’s dignity is lost if he or she is required to undergo pain and suffering because of “unwarranted medical support”.

“The terminally ill patient or a person in permanent vegetative state, where there is no hope of recovery, can accelerate the process of death for reducing the period of suffering”.

Difference with Active Euthanasia

The court distinguished passive euthanasia from active euthanasia. “Mere acceleration of the inevitable conclusion” is called passive euthanasia. On the other hand, the court concluded active euthanasia as unlawful. Active euthanasia refers to injection

of something poisonous or undergoing other procedure which takes away the life of the person.

How Is the Judgement Different from Previous Judgements?

Passive euthanasia was recognized earlier by Supreme Court in Aruna Shanbaug in 2011. Now the Constitution Bench has added the principle of a “living will”, or an advance directive, a practice whereby a person, while in a competent state of mind, leaves written instructions on the sort of medical treatment that may or may not be administered in the event of his or her reaching a stage of terminal illness.

How Article 142 Is Involved?

The court has invoked its inherent power under Article 142 of the Constitution to grant legal status to advance directives of a patient. The judgement will hold good until Parliament enacts legislation on the matter. The government has submitted that it was in the process of introducing a law to regulate passive euthanasia.

Issue of Advance Directive

Government is opposed to the concept of advance directive on the ground that it is liable to be misused. The Supreme Court has also imposed stringent conditions on advance directives to prevent their misuse.

The court has argued that advance directives will strengthen the will of the treating doctors by assuring them that they are acting lawfully and in accordance with the patient's wishes.

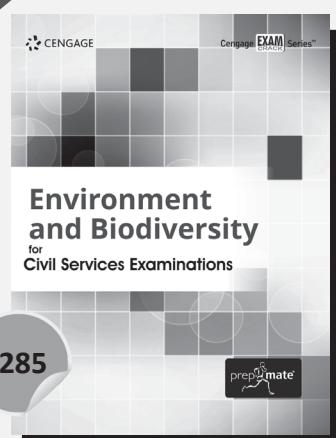
Interstate Water Disputes Tribunal

The Ministry of Water Resources, River Development and Ganga Rejuvenation has issued a notification constituting the Mahanadi Water Disputes Tribunal. The members of tribunal (three in number) are nominated by the Chief Justice of India.

The members of the tribunal are as follows:

1. Justice A.M. Khanwilkar, Judge, Supreme Court of India as Chairman
2. Justice Ravi Ranjan, Judge, Patna High Court as Member
3. Justice Indermeet Kaur Kochhar, Judge, Delhi High Court as Member

The Tribunal has been constituted following directions of the Supreme Court in a suit filed by the Government of Odisha. The Odisha Government had sought to refer the water dispute regarding the interstate river Mahanadi and its river valley to a Tribunal for adjudication under the Interstate River Disputes Act, 1956.



Constitutional Mechanism to Resolve Interstate Water Disputes (Article 262)

Art. 262 of constitution provides for adjudication of interstate water disputes. It makes two provisions:

- (i) Parliament by law provides for mechanism to adjudicate interstate water disputes.
- (ii) Parliament may also provide that neither Supreme Court nor any other court exercises jurisdiction over interstate water disputes.

First provision has been incorporated so that Parliament by law can provide for effective mechanism for resolution of interstate water disputes. Such mechanism is expected to resolve the disputes within a limited time frame.

Second provision bars interference of Judiciary because in case interstate water dispute are taken up by regular courts, it may take long time to be resolved. The regular courts are already overburdened. Thus, there is a need for dedicated mechanism to resolve the interstate water disputes.

Under provision of Art. 262, Parliament has passed two laws:

- (i) **River Boards Act (1956)** provides for the establishment of river boards for the regulation and development of interstate rivers and river valleys. A river board is established by the Central Government on the request of concerned states to advise the states.
- (ii) **Interstate Water Disputes Act (1956)** empowers the Central Government to set up an ad-hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an interstate river. The decision of the tribunal would be binding and final. Neither Supreme Court nor any other court has jurisdiction over water disputes referred to such tribunals.

Provisions of Interstate River Water Disputes (ISRWD) Act, 1956

According to the Interstate River Water Disputes (ISRWD) Act, 1956, the Tribunal shall consist of a Chairman and two other members nominated by the Chief Justice of India from amongst the Judges of the Supreme Court or High Court.

Two water resource experts with experience in handling sensitive water-related issues provide advice to the Tribunal in its proceedings.

The Tribunal is required to submit its decision within a period of 3 years. This period can be further extended by a period not exceeding 2 years due to unavoidable reasons.

Ayushman Bharat Scheme

Ayushman Bharat programme was announced by the Union Minister for Finance and Corporate Affairs, Shri Arun Jaitley while presenting the General Budget 2018–19. The programme comprises two major initiatives in health sector. The programme aims to address health holistically, in primary, secondary and tertiary care systems, covering both prevention and health promotion.

According to the Finance Minister, two health sector initiatives under Ayushman Bharat Programme will build a New India 2022 and ensure enhanced work force productivity and well being. Moreover, these initiatives will also generate lakhs of jobs, particularly for women. The two initiatives are as follows:

- (i) **Health and Wellness Centre:** Government plans to set up 1.5 lakh health and wellness centres. These centres will provide comprehensive health care, ranging from treatment of non-communicable diseases to maternal and child health services. These centres will also provide essential drugs and diagnostic services for free. The Budget 2018-19 has allocated ₹1200 crore for this flagship programme. The government also seeks private sector contribution in adopting these centres. These centres will bring health care system closer to the homes of people.
- (ii) **National Health Protection Scheme:** The second component under Ayushman Bharat is National Health Protection Scheme. Under this component, insurance coverage up to ₹5 lakh per family per year for secondary and tertiary care hospitalization to over 10 crore poor and vulnerable families (approximately 50 crore beneficiaries) will be provided. This will be the world's largest government funded health care programme.

India's Ranking in Corruption Perception Index Falls to 81

Transparency International

Transparency International (TI) is an international non-governmental organization which is based in Berlin, Germany, and was founded in the year 1993. The objective of TI is to combat corruption by making public corruption levels in various nations. TI releases publications such as Corruption Perceptions Index and Global Corruption Barometer.

About Corruption Perception Index (CPI)

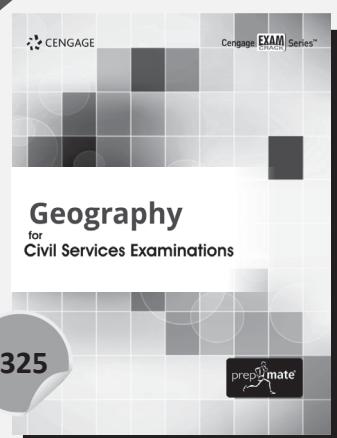
TI has published the Corruption Perceptions Index (CPI) since 1995, annually ranking countries "by their perceived levels of corruption, as determined by expert assessments and opinion surveys". The CPI generally defines corruption as "the misuse of public power for private benefit". The index has been compiled by using data from multiple forums such as World Bank, World Economic Forum (WEF) and other institutions. It ranks countries on the scale ranging from 0 (highly corrupt) to 100 (very clean).

About India's Performance (2017 Report)

India's score on CPI was 40 and India's rank was 81 amongst 180 countries. India's ranking degraded to 81 from 79 in the last year. The Corruption Perception Index 2017 also mentioned India as one of the "worst offenders" in the Asia-Pacific region.

2016 Report

In 2016, India was at 79th place among 176 countries. India's ranking fell in 2013



and 2014 in the wake of the spectrum and coal block allocation scams. Thereafter, the ranking has improved.

Performance of Other Countries

New Zealand scored the highest score of 89 (out of 100) and Singapore scored the second highest score of 84. Somalia was the most corrupt country in the world. Majority of the world's countries scored below 50 on the index. The global average score was around 43. India's score was 40 which is below the global average.

About Global Corruption Barometer

The Global Corruption Barometer published by TI is the largest survey in the world tracking public opinion on corruption. It surveys more than 100,000 people in more than 100 countries on their view of corruption. The survey has the question “whether they have paid a bribe to a public body during the last year”. For a small number of countries, including Brazil and Russia, data on particular questions has been excluded because of concerns about validity and reliability. The margin of error for each country is 3%. The typical sample size is 1,000 people. Four countries that have a sample size of 500 people have a margin of 4% error.

Comparison with Corruption Perception Index

Unlike the other similar Corruption Perception Index published by TI, this is a survey directly asking the population instead of using “perceived expert opinions”, which is liable to substantial bias and has been under criticism as such.

Paradise Papers

Paradise papers comprise around 13.4 million corporate records obtained primarily from Bermuda firm Appleby and Singapore-based Asiaciti Trust as well as from documents of governments in 19 secrecy jurisdictions. These jurisdictions are notoriously known as “tax paradises”. Paradise papers are called after tax paradises.

The leaks were obtained by the German newspaper Süddeutsche Zeitung, and shared with the International Consortium of Investigative Journalists (ICIJ).

How Are Paradise Papers Different from Panama Papers (2016)?

Paradise Papers, like Panama Papers, also reveal offshore financial activities. Appleby functions very much like Mossack Fonseca. It helps in setting up new companies and operating bank accounts overseas, in tax havens. Unlike the previous leaks, the latest reveal about mega corporates than individual players.

What Do the Paradise Papers Show?

They reveal activities of some of India's major corporate players. Some of these activities may be illegal which can be only concluded after thorough investigation.

United Nations Convention against Torture

The Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment is commonly known as the United Nations Convention against Torture (UNCAT). The convention is an international human rights treaty that aims to prevent torture and other acts of cruel, inhuman, or degrading treatment or punishment around the world.

The Convention requires states to take effective measures to prevent torture under their jurisdiction, and it also forbids states to transport people to any country where they might be tortured.

The text of the Convention was adopted by the United Nations General Assembly in 1984. The treaty came into force on June 26, 1987. Since then, 26 June is recognized as the International Day in Support of Victims of Torture.

As of August 2017, the Convention has 162 state parties. India has signed the convention, but not ratified it. It is to be noted that the United States of America, China and Pakistan have ratified the convention.

Committee against Torture

The Committee against Torture (CAT) is a body of human rights experts that monitors implementation of the Convention by state parties. All state parties are obliged under the Convention to submit regular reports to the CAT on how rights are being implemented. Upon ratifying the Convention, states must submit a report within one year, after which they are obliged to report every four years. The Committee examines each report and addresses its concerns.

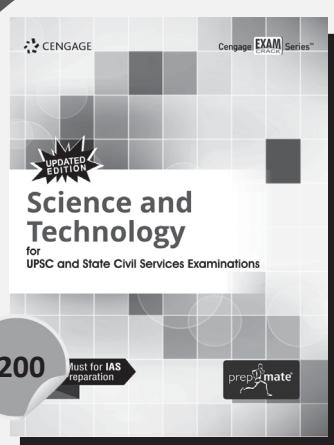
Thereafter, it makes recommendations to the State party in the form of “concluding observations”. Under certain circumstances, the CAT may consider complaints or communications from individuals claiming that their rights under the Convention have been violated.

India's Position on UN Convention against Torture

Two decades after signing the UN Convention against Torture, India is yet to ratify it.

Why there is urgency for early ratification?

- India has pending extradition requests with many other countries. In the absence of a law prohibiting torture, many countries do not agree to the extradition requests from India.
- During the Universal Periodic Review, India was subjected to close questioning of its human rights obligations at the UN Human Rights



Council in Geneva. Thus, a law to prevent torture would bring credibility to human rights record of India.

- A domestic law against torture will also have positive implications for the protection of human rights.

Is There a Need of a Separate Law?

There is a debate on the necessity of new law to prevent and punish torture. For instance, provisions to prevent forceful extraction of a confession, criminal intimidation and wrongful confinement are already there in the Indian Penal Code. However, a single law prohibiting torture would cater to various types of torture and will prescribe higher punishment against torture.

Past Efforts to Enact Separate Law

The Prevention of Torture Bill was passed by the Lok Sabha in 2010, but it was not passed by the Rajya Sabha.

In year 2017, the Law Commission submitted a draft Bill for the government's consideration.

Semi-cryogenic Engine

GSLV MK III is a satellite launch vehicle which has three stages. Presently, first stage is solid fuel based, second stage is liquid fuel based and the third stage is cryogenic stage which is based of liquid oxygen and liquid hydrogen. The idea is to replace the second stage of the GSLV MK III, which now uses a liquid stage, with the semi-cryogenic stage. The rocket will retain the cryogenic upper, the third stage. The semi-cryogenic engine for rockets facilitate heavier payload capacity.

Project SCE 200

The development of semi-cryogenic engine is codenamed Project SCE 200. The semi-cryogenic engine is being developed at the ISRO Liquid Propulsion Systems Centre, Mahendragiri.

Propellant

The semi-cryogenic engine is called so because it uses a combination of liquid oxygen (LOX) and refined kerosene (Isrosene) as propellants. Thus, it uses liquid oxygen as used in cryogenic engine. However, it replaces liquid hydrogen with kerosene. Kerosene as a fuel has advantages of being an eco-friendly and cost-effective option. Unlike liquid hydrogen, which has to be stored at (-)253 degree Celsius, it is stable at normal temperature.

Target Date

ISRO hopes to complete the development of the semi-cryogenic engine by 2019. The stage test is expected to take place by 2020, followed by the first flight test in 2021.

Benefit of Semi-cryogenic Engine

- (i) ISRO plans to replace the second stage liquid core (L110) engine of the GSLV Mark III with the SCE-200 to boost the payload capacity of the rocket from four to six tonnes. There is also a proposal to develop a bigger semi-cryogenic engine that could generate a lift of 8 to 10 tonnes. The bigger semi-cryogenic engine will involve a cluster of four or five engines.
- (ii) Apart from need to lift the future heavy satellites, semi-cryogenic engine is also required for reusable launch vehicles as well as human spaceflight missions.

Space X and Falcon Heavy

Space X was found in 2002 by billionaire Internet entrepreneur Elon Musk. He is also the co-founder of PayPal. Musk is also currently the chief executive officer of Tesla Motors, which builds and sells electric cars.

The company aims to send people to outer space such as Moon and Mars aboard its Dragon spacecraft.

Dragon Spacecraft

Dragon is a spacecraft owned by company Space X. It can deliver both cargo and people to space. In 2012, Dragon achieved a significant milestone by becoming the first commercial spacecraft to deliver cargo to the International Space Station and safely return cargo to the Earth. Previously, only governments were able to do this.

Presently, Dragon is used to carry cargo to space. Under an agreement with NASA, Space X is undertaking refinements that will enable Dragon to fly crew. Dragon's first manned test flight is expected to take place soon.

Falcon Heavy

Falcon Heavy is the most powerful rocket in the world. It was successfully launched for the first time in February, 2018. This rocket had the thrust equal to 18 Boeing 747 jetliners. Space X has said that the rocket can send humans to Mars.

The most powerful rocket in history was NASA's Saturn V rocket. It was used for the Apollo moon landings and was retired in the 1970s.

What Was the Payload?

It was the test mission of Falcon Heavy. It was used to launch a car, Tesla (TSLA) roadster into deep space. Now, the Falcon Heavy has proven it can fly, the rocket will be used to launch satellites and other payloads into orbit.



How Much Does It Cost?

Falcon Heavy costs \$90 million. It is only 45% more expensive than the Falcon 9 rocket. However, the Falcon Heavy is 3 times more powerful than Falcon 9. It is far cheaper than other rockets with similar power.

Why Is It So Cheap?

Falcon heavy is cheaper because of its reusable parts. The company is the only rocket builder in the world that safely returns first-stage rocket boosters back to the earth. The first Falcon Heavy flight will also use two refurbished boosters from previous Falcon 9 missions.



Falcon Heavy launches Elon Musk's Tesla Roadster and
a mannequin named Starman in maiden test flight

Bullet Train Project in India

India's first bullet train project between Ahmedabad and Mumbai was formally launched in December 2017 by Prime Ministers Narendra Modi and Shinzo Abe of Japan. A Memorandum of Cooperation has been signed between the Governments of India and Japan to implement Mumbai–Ahmedabad high speed rail corridor with technical and financial assistance of Government of Japan.

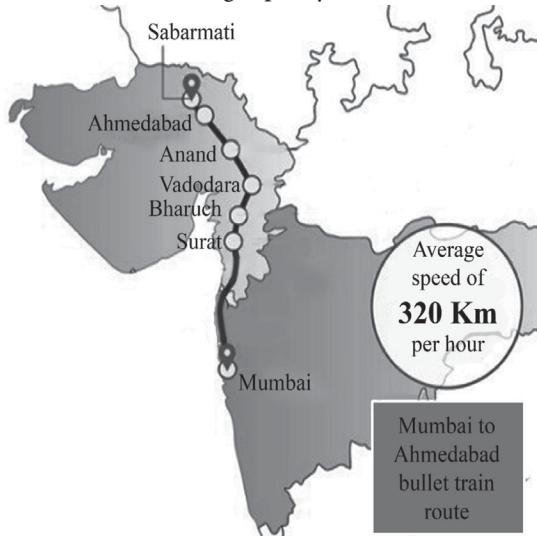
Japan has agreed to transfer Shinkansen and even facilitate Make in India initiative by constructing components of high speed rail in India. Shinkansen refers to high speed rail technology of Japan. High speed rail is based on magnetic levitation and are, thus, called Maglev trains.

How Do Maglev Trains Attain Such High Speeds?

Superconductors repel a magnetic field. As a result, superconductors can be used to lift magnets. This property is used in magnetic levitation trains, which are also called Maglev trains. Magnetic levitation trains run over tracks without any direct contact with tracks. As a result, there is no friction between the train and the track, and thus, the trains can attain very high speeds.

Interesting Facts about India-Japan Bullet Train Project

- (i) India's first bullet train between Ahmedabad and Mumbai will cover the 508-km stretch in under 3 hours, at a maximum speed of 350 km/h.
- (ii) The cost of the project is estimated at around ₹1.10 lakh crore. Japan is giving a loan of ₹88,000 crore for the project at a minimal interest of 0.1 per cent.
- (iii) The government aims to start the services of the proposed Ahmedabad-Mumbai bullet train on August 15, 2022 to mark 75th year of India's Independence.
- (iv) There will be 12 stops on the route for 165 seconds each.
- (v) 92 per cent of the route will be elevated, 6 per cent would go through tunnels and only the remaining 2 per cent would be on the ground. Thus, railways would require only around 825 hectares of land for the project.
- (vi) A 21-km-long tunnel will connect Boisar and BKC in Mumbai. 7 km of this tunnel will be under water.
- (vii) Initially, there would be 10 coaches with a total of 750 seats. Later, it is proposed to have 16 coaches with 1,250 seating capacity.



2050 Target

The railways would start with around 35 bullet trains. The number of trains would be increased to 105 trains in 2050. By 2050, 1.6 lakh commuters will travel by high-speed trains on a daily basis.

A LOOK AT THE OTHER PROPOSED ROUTES FOR BULLET TRAINS

Section	Distance (km/h) (km)
Mumbai-Pune	85
Delhi-Amritsar	480
Delhi-Patna	1,000
Howrah-Kolkata-Haldia	140
Hyderabad-Chennai	720
Chennai-Thiruvananthapuram	1,080
Delhi-Jodhpur	530

Total high speed bullet train route (km)
4,643

Pratyush

Pratyush is the fastest supercomputer of India. It was launched in January 2018. Pratyush consists of several computers that can deliver a peak performance of 6.8 Petaflops. It is the first multi-Petaflops supercomputer ever built in India. One petaflop stands for million billion (quadrillion) floating point operations per second. The word “Pratyush” literally means Sun.

Use of Pratyush

Pratyush is dedicated to weather and climate research. Pratyush consists of two units. The units are located at two government institutes: 4.0 petaflops unit at Indian Institute of Tropical Meteorology (IITM), Pune; and 2.8 petaflops unit at the National Centre for Medium Range Weather Forecasting (NCMRWF), Noida. The combined output of Pratyush is 6.8 petaflops.

Comparison with Global Supercomputers

According to Indian Institute of Tropical Meteorology (IITM), Pratyush is the fourth fastest supercomputer in the world.

With the introduction of Pratyush, Indian supercomputer will move from the 300s to the 30s in the Top 500 list of world's fastest supercomputers.

What Are Supercomputers?

Supercomputers are the fastest computing machines. Recent supercomputers are capable of performing quadrillions of calculations per second or petaflops. A petaflop is the ability of a computer to do one quadrillion floating point operations per second (FLOPS). Additionally, a petaflop can be measured as one thousand teraflops.

Supercomputers differ from ordinary computer in the following three ways:

1. Supercomputer uses chips made of gallium arsenide (a semiconductor) that can conduct information 6 times faster than the ordinary chips and generate less heat than the ordinary chips.
2. Supercomputers perform parallel processing or simultaneously perform different acts unlike the sequential processing carried out by the ordinary computer.
3. Supercomputers use advanced software to speed up their operations.

Virtual Currency

Virtual currency or virtual money refers to a currency which cannot be converted into physical currency such as coins and currency notes. It can only be stored electronically. A virtual currency is not regulated by governments or central banks. It is usually regulated either by its developers or by its user community. At present, there are many popular virtual currencies. Some of these virtual currencies are Bitcoin, Dash and Litecoin.

What Is Cryptocurrency?

Cryptocurrency is a type of virtual currency. Encryption is used to create and verify the

transfer of this type of currency. Thus, virtual currencies which are based on encryption are also called cryptocurrencies.

What is Cryptocurrency ?



Free of all governmental oversight, the Cryptocurrency economy is not controlled by any Central bank



Cryptocurrency possesses no physical form



Cryptocurrency is a virtual currency created and stored electronically using encryption techniques

Major Cryptocurrencies in circulation



Bitcoin



Dash



Litecoin

Difference between Digital Currency and Virtual Currency

Digital currencies are currencies which can be stored and transferred electronically, but they also have physical representation. For instance, rupees stored in a bank account can be converted into coins and currency notes. On the other hand, 'virtual' currency cannot have any physical existence.

Benefits of Virtual Currency

Most of the virtual currencies offer the following benefits to their users:

1. **User anonymity:** It is difficult to find the users and account holders of virtual currencies.
2. **No third-party interruptions:** Governments or Central banks cannot control the flow of cryptocurrency.
3. **Purchases are not taxed:** As government cannot control or track the flow of cryptocurrency, taxes are difficult (if not impossible) to be levied on transactions involving cryptocurrency.
4. **Very low transaction fees:** Cryptocurrency can be exchanged across the world without any consideration of national boundaries. The transaction fees on cryptocurrency is very low or negligible, which makes it preferable particularly for international transactions.
5. **Freedom in making payments:** Cryptocurrency users can make payments from anywhere across the world. They just need internet connectivity for making payments.

Possible Threats After Widespread Use of Virtual Currency

1. There are risks in terms of stability of the platforms associated with a particular cryptocurrency.
2. Cryptocurrency also suffers from large volatility in the prices.
3. These currencies are also vulnerable to cyber-threats like theft, hacking, etc.
4. These currencies have often been associated with illegal activities such as money laundering and the trade in illegal goods, mainly because of the fact that these currencies can be used anonymously.

How to Use a Cryptocurrency?

Let us take example of Bitcoin. A digital wallet is required to use a Bitcoin. Every wallet has one or more unique addresses, which are like account numbers. The unique address is the only information which is public. It lets a user to receive or send Bitcoin.

Can Cryptocurrency Replace Paper Currency?

Cryptocurrencies have utility in variety of ways. However, they are not widely accepted. Moreover, their use has facilitated illegal activities. The intense volatility of cryptocurrency makes it an unsuitable investment.

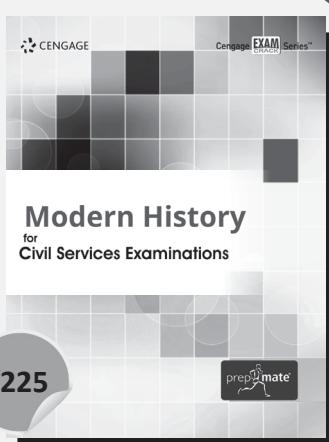
Who Creates New Currency?

Bitcoin is created with a process called mining. Like gold, Bitcoin is “mined” by powerful computers. These computers collectively use more power than many European countries.

Bitcoin miners solve the complex mathematical problems needed to verify transactions and thus build the blockchain. In return, they are issued a fee in denomination of Bitcoin.

According to the official Bitcoin.org website, the number of Bitcoins that can be mined is 21 million. When all the 21 million Bitcoin are in use, which experts estimate will be reached around 2040, no more will be created.

Each time a new block or set of transactions is consolidated into a block, it verifies all the blocks before it. In general, six verifications mean a transaction is 99.99% likely to be genuine.



Founders of Bitcoin

Satoshi Nakamoto, an anonymous individual (or may be group of people), is behind the creation of Bitcoin. So far, the identity of the creator has not been known. Presently, Nakamoto owns around \$7.5 billion worth of Bitcoins. However, he has never spent any of it.

Initial Coin Offerings

An Initial Coin Offerings (ICO) is like initial public offer (IPO) of shares or debentures. It refers to issue of cryptocurrency in consideration of funds received from investors. ICO are mostly used to raise funds by start-up firms dealing with blockchain technology and virtual currencies.

According to data from some credible sources, nearly \$2.7 billion has been raised globally through ICOs between 2014 and 2017.

Legal Status of Bitcoin

As of February 2018, there are more than 500 different cryptocurrencies, but Bitcoin enjoys the dominant population due to its first mover advantage.

Most countries have not clarified their legal position on Bitcoin. The legal status of Bitcoin in some of the nations is as follows:

The United States: Initially, the United States took a positive approach towards bitcoin. Presently, we can say that US does not hold a coherent direction on its cryptocurrency regulation. Various government agencies have warned about risks of investing in cryptocurrency. Several ICOs have been stopped. It is expected that US will soon take a legal stand on cryptocurrency.

Japan: The Japanese government has certainly been more welcoming of cryptocurrencies. However, recent events have reduced Japanese enthusiasm for cryptocurrencies. In January 2018, the hack of a Japanese exchange resulted in the loss of \$530 million worth of NEM coins. This incident has prompted closer oversight by government agencies.

China: China has taken a firm stand against the use of cryptocurrency. China has banned ICOs, blocked bank accounts associated with cryptocurrency, and even banned internet access of cryptocurrency trading. China has adopted most stringent measures against cryptocurrency amongst all the major economies.

European Union: EU seeks to legalize use of cryptocurrency. In view to legalize the use, it aims at ending anonymity of cryptocurrency traders. However, EU has not announced finalized regulations on cryptocurrencies.

India: Bitcoins are fairly popular in India. According to some estimates, more than 2,500 Indians invest in Bitcoin daily. Many start-ups are popular in the Bitcoin and blockchain segment. While IPOs are governed by SEBI regulations, there is no regulatory body for ICOs in India.

The Government has explicitly stated that Banks and other financial institutions will not recognize Bitcoins. The Government has even issued warnings to public against the use of cryptocurrency. However, there is no explicit ban on dealing with cryptocurrency.

Conclusion

Governments have concerns about cryptocurrency because it can be used to facilitate illegal transactions and on account of volatility in its value. Moreover, cryptocurrencies

may dominate the use of paper currencies and thus, may undermine the role of government or its use may even increase the size of black economy.

Most countries are still analyzing ways to properly regulate the use of cryptocurrency or even thinking of outright banning it.

Blockchain Technology

Under this system, a transaction is stored online as a “block”. When the transaction is verified, it gets added to a chain of blocks. The transaction is considered complete only when it is verified by a certain number of computers on a network. New transactions add to the existing blockchain in a chronological manner.

How Is Blockchain Different from Present System?

Presently, transactions are made through a trusted intermediary party such as a bank. However, blockchain allows parties to a transaction to connect directly, removing the need for the intermediary party.

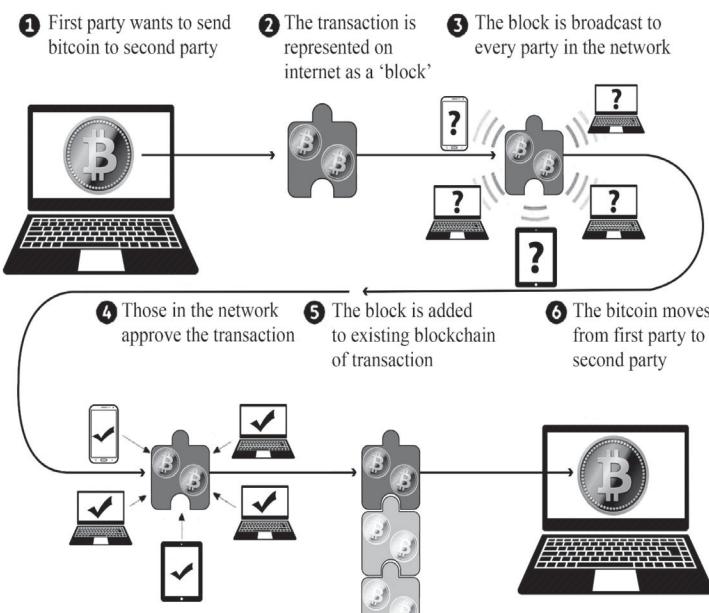
How Are the Transactions Recorded in Blockchain System?

Transactions are kept in a decentralized database, or “digital ledger”. This digital ledger is available online and is accessible to everyone. These transactions are verified by people on the network for an incentive such as small fee.

How It Is Foolproof Against Fraud?

Let us take the example of Bitcoin. Blockchain stores the details of every transaction of the digital currency. Every transaction is recorded, and once recorded, a transaction cannot be changed. Thus, the previous record stops the same Bitcoin being spent more than once.

How a Blockchain works ?



Why Is It So Revolutionary?

The technology can be used to record almost every type of transaction, financial as well as non-financial. Blockchain will also help in reducing fraud because every transaction would be recorded and distributed on a public ledger which can be seen by anyone.

What Is the Present Status of Blockchain?

As of December 2017, only a very small proportion of global GDP (around 0.025%, or \$20 billion) is held in the blockchain.

However, the use of blockchain for recording transactions will significantly increase in the next decade because it will help in reducing the cost of recording transactions. Moreover, the chances of financial frauds will also reduce.

How Is the Verification Done?

Let us take example of Bitcoin. Computers on the Bitcoin network verify transactions via the digital signatures that are attached to each transaction. Each digital signature has a public key and a private key.

When first party transfers Bitcoin to the second party, the first party attaches his/her digital signature to the transaction. The corresponding public key to digital signature of first party is used by computers on the Bitcoin network to confirm the transaction. Once the transaction is confirmed, it gets added to the chain. Each Bitcoin also has unique address. These bitcoins with unique addresses are attached to individual accounts.

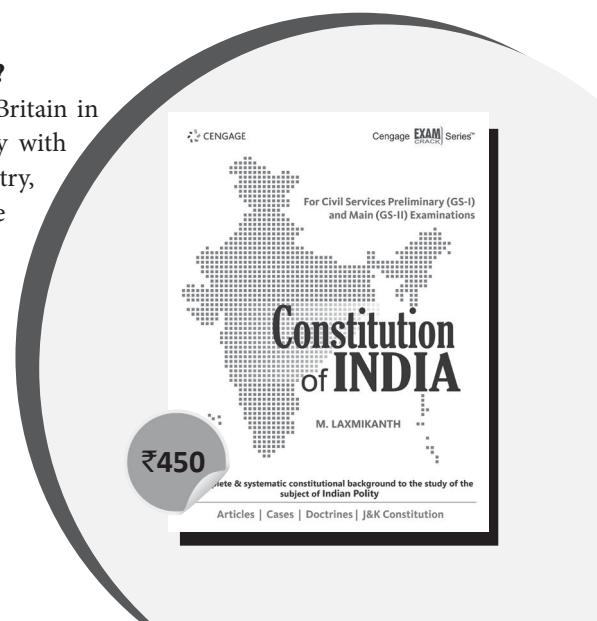
Fourth Industrial Revolution and Internet of Things

Industry 4.0 or the Fourth Industrial Revolution is the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the internet of things, robotics and cloud computing. Industry 4.0 will create what has been called a “smart factory”.

What Were the First Three Revolutions?

The First Industrial Revolution began in Britain in the last quarter of the eighteenth century with the mechanization of the textile industry, harnessing of steam power and birth of the modern factory.

The Second Revolution began roughly a century after the First and peaked at the beginning of the twentieth century, embodied in Henry Ford's creation of the moving assembly line that ushered in mass production. Factories, powered



by electricity, could produce countless numbers of identical products quickly and cheaply.

The Third Industrial Revolution, beginning from 1970, was digital—and applied electronics and information technology to the processes of production. Mass customization and additive manufacturing—the so-called “3D printing”—are its key concepts and its applications.

The Fourth Industrial Revolution is conceptualized as an upgrade on the Third Revolution—and is marked by the fusion of physical, digital and biological worlds.

The Internet of Things

Internet of Things (IoT) refers to the connection of various physical devices to internet. To simply state, IoT is the concept of basically connecting any device with an on-and-off switch to the internet (and through internet to each other). This includes devices such as mobile phones, sandwich makers, washing machines, door locks, lamps, cars and may extend to almost anything we use in our day to day lives.

Some analysts argue that by 2020, there will be over 26 billion connected devices. Some even estimate this number to be much higher, over 100 billion. The IoT will be a giant network of connected things.

How Will This Giant Network Function?

Let us consider an example. Suppose you have a meeting mentioned in your mobile calendar. Your car could access your mobile calendar and already knows the best route to take. If the traffic is heavy, your car might send a text to the other party notifying them that you will be late.

Your alarm clock wakes you up at 6 a.m. and then notifies your sandwich maker to start making sandwich for you. Your office printer would know the status of stationary in the store and would automatically re-order when the stock falls below a limit.

On a broader scale, the IoT can be applied to things like transportation networks. Buses connected to the network would be able to access number of passengers at each bus stop. Smart devices will conserve energy in response to the natural temperature and light.

The IoT has potential for endless connections, many of which we cannot even think of or fully understand. However, IoT can create many challenges.

- 1. Security:** With billions of devices being connected together, people will have to be more careful to secure their information. It may happen that someone might be able to hack into one of your devices and thereby gets access to your entire network.
- 2. Privacy violation:** Other people on the network might be able to access information about the minute details of your life such as your daily schedule.
- 3. Commercial use of information:** The massive information about the details of lives might be used by the companies to sell their products.

Conclusion

Small steps in the field of IoT have already been taken with the introduction of smart devices into our lives such as Smart TV, Smart watch, etc. In the times to come, IoT will change our world significantly.

MRI Scanning

The biggest and most important component of an MRI system is the superconducting magnet. There is a horizontal tube in which the patient enters. The strength of a magnet is rated using a unit of measure known as a Tesla. Another unit of measure commonly used with magnets is the Gauss (1 Tesla = 10,000 Gauss). The magnets in MRI systems create a magnetic field of 0.5–2.0 Tesla. Earth's magnetic field measures 0.5 Gauss. Thus, MRI scanner uses very powerful magnets. The body is mostly water (hydrogen and oxygen), and when in the massive, stable magnetic field of the scanner, the hydrogen protons get aligned in the same direction. When the field is turned off, the protons gradually return to their normal spin, a process called precession. Protons in different body tissues return to their normal position at different rates, so that the scanner can distinguish among various types of tissues. A radio frequency source is then repeatedly switched on and off. Scanner attached to a supercomputer picks up radio signals that the protons send out, and by combining these signals, the machine creates a detailed image of the body's inside.

How Can MRI Scanning Prove to Be Dangerous?

The strong magnet within the MRI machine attract iron. The iron containing objects range from cardiac implants to iron scissors. Patients with an implant that contains iron will be at severe risk if they undergo an MRI. Powerful magnetic fields produced by the machine can make the object move, possibly leading to physical damage for the patient, or cause the device to malfunction.

