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National

Sugar mills in Uttar Pradesh have requested government not to increase the prices

- Sugar mills in Uttar Pradesh have requested the State government not to increase the prices at which sugarcane is purchased from farmers this year.
- In a letter written to the Chief Secretary UPSMA said that any increase in cane prices would hit them hard "as the cane industry has been going through losses for last three consecutive years"
- The request comes days after distressed farmers of the State alleged that the present rate of Rs.
 305 per quintal of cane was much lower than the total input cost that goes into the farming of cane in U.P.
- Farmers have waged a campaign to increase the State Advised Price (SAP) to Rs. 400 per quintal. Uttar Pradesh became the highest producer of sugar last year, contributing close to 42% of the total sugar production in India.
- To push forth its request, the UPSMA reminded the Chief Secretary that CM had, on several occasions, said that increasing the procurement rate for sugarcane was not the solution to the problems of the industry.
- Last year, the Samajwadi Party (SP) government increased the SAP of sugarcane by Rs. 25 and fixed it at Rs. 305 per quintal.
- The UPSMA also urged the government to give the mills the option of paying sugarcane prices in two installments, and decreasing the commission paid to cooperative societies to Rs. 2 per quintal from the present Rs. 7.65.
- The cane crushing season is expected to start from October. The letter said that "sugarcane prices in U.P. are undoubtedly higher as compared to other major sugar-producing States".

Chinese envoy said time for India and China to start a new chapter

- Chinese envoy to India Luo Zhaohui has said it was time for India and China to turn the old page and start a new chapter, stressing that the countries have made a lot of progress at the bilateral level.
- Chinese President Xi Jinping met Prime Minister Narendra Modi at the BRICS Summit in Xiamen earlier this month, and the two leaders sent a clear message of "reconciliation" and "cooperation", he said.
- The Chinese envoy was speaking on the 68th anniversary of the founding of the People's Republic of China.
- The Chinese envoy added that the speed of Chinese high-speed trains from Beijing to Shanghai was increased from 300 kmph to 350 kmph two weeks ago.
- "We have started the feasibility study of hyperloop trains at the speed of 1,000 to 4,000 kmph," he said. He said the

Page: 1



UPSC EXAM 2018
STUDY MATERIAL





high-speed trains were one of the four latest innovations made by China.

Indian Railways decided to amend "a 150-year old convention"

- The Indian Railways decided to amend "a 150-year old convention" to treat expenditure on foot over bridges as a "highest priority" safety item with no budget restriction and not as a passenger amenity.
- Earlier only the first foot over bridge at a station was considered essential. The subsequent ones were seen as passenger amenities.
- General Managers of all railway zones have been delegated powers to decide expenditure on safety-related issues.
- "They shall intimate Financial Commissioner (FC) within a week of sanction for provision, and FC shall confirm the same within 15 days," the Railway Ministry said in a statement.
- Adding that in case of any disagreement over spending, the FC will put up the matter before the Railway Board.
- The Railways will finalise the plan for additional escalators at Mumbai sub-urban railway stations with 15 days and the same exercise will be conducted at a pan-India level for all high traffic stations.

Core banking facilities to be available in Hindi

- The Home Ministry has asked all banks, private and public sector, to enable their core banking facility in Hindi.
- Prabhas Kumar Jha, Secretary, Department of Official Language told that banks have been asked to update databases in Hindi and customers should not be compelled to fill forms only in English.
- "Software that would help banks transact in Hindi has already been developed by Infosys. Banks should modulate the software in such a way that a customer can get the passbook in Hindi. It should also be in regional languages. Some banks in Gujarat and Maharashtra have done it. ATMs already have a Hindi option," said Mr. Jha.
- He said that as per the Official Languages Act, 1963 there was no provision of punitive action for not using Hindi in official communication but the language could only be promoted through "persuasion and encouragement."
- Last year, the Official Language department pulled out a 2011 report of the parliamentary standing committee on Hindi and sent it to the then President of India Pranab Mukherjee for his approval in April. As many as 110 out of 117 recommendations in the report were accepted.
- The Home Ministry issued an advisory to all States and government departments to implement the recommendations.

Page: 2



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- A Home Ministry official said the recommendations were not mandatory. In August, President Ram NathKovind accepted the remaining recommendations which include "financial services in Hindi."
- Mr. Jha said though States were free to choose their language, Hindi-speaking States should also learn other regional languages like Tamil

Sathyamangalam Tiger Reserve sees increase in leopards population

- In what is seen as a healthy sign of leopard population in the Sathyamangalam Tiger Reserve (STR), the Forest Department has identified and tagged 111 leopards through camera traps over a period of three years.
- These included a leopardess with her three cubs. To promote conservation of the tiger, the Ministry of Environment and Forests is implementing 'Project Tiger' at the 50 tiger reserves in the country through the National Tiger Conservation Authority (NTCA).
- Tiger estimation is done through camera traps in association with the World Wildlife Fund (WWF). The STR — spread across 1,411.60sq.km. — has tigers, elephants, leopards, gaurs, blackbucks, four-horned antelopes, hyenas, wild dogs, white-backed vultures, deer and other animals.
- As many as 320 camera traps were placed in the forest during the last three years to capture the images of tigers and other animals.
- I. Anwardeen, Chief Conservator of Forests and Field Director of the STR, told that while undertaking the camera- trap monitoring exercise for tracking tigers, the department got images of leopards.
- After profiling the images based on the unique skin rosette pattern, the department identified 111 leopards, including 35 male, 56 female and 20 unclassified leopards.

Ambala getting ready to host first squadron of Rafale jets

- The Indian Air Force has initiated a major infrastructure upgrade at its frontline base for the deployment of the first squadron of Rafale jets, which will start arriving in September 2019.
- The government has sanctioned Rs. 220 crore to set up 14 shelters, hangars and maintenance facilities at the 78-year-old base for the fighter jets, a senior IAF official said.
- The Rafales will give India greater "potency" to fight Pakistan as they can carry nuclear and other missiles. The strategically located Ambala base is just 220 km from the border.
- Currently, the base has two fighter squadrons of Jaguar and and one of the MiG-21 Bison.

Page: 3



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- Several teams from Dassault Aviation, the French manufacturer of Rafale, have visited the base and finalised the requirement for the first squadron.
- The IAF is carrying out an infrastructure upgrade at its Hasimara base in West Bengal, which will house the second squadron, the official said.
- In September last year, India signed a €7.87-billion (approxRs. 59,000-crore) deal with the French government for buying 36 Rafale jets in flyaway condition. Half of them will go to Ambala and the rest to Hasimara.
- The two bases will have simulator-based training facilities for the air crew. The IAF has selected a batch of pilots to fly the jets and they are being trained by Dassault Aviation in France.
- The Rafale squadron to be deployed in Ambala will be known as Golden Arrows, which was originally based in Bhatinda and disbanded two years ago.

Patna University turns 100

- Patna University, established at a time when not a single girl student was studying in any college of the newly created province of Bihar, completed 100 glorious years.
- It was on October 1, 1917, that the Patna University Act passed by the then Imperial Legislative Council, came into effect, turning the long-cherished dream of the province into a reality.
- The administration of the country's seventh oldest university has lined up a host of events this year as part of the centenary celebrations, which Prime Minister Narendra Modi is likely to formally launch later this month here.
- Since the establishment of the university is closely linked with the creation of the new province of Bihar in 1912, its story is also the story of modern Bihar, both being inspirational.
- The university indeed scripted a new destiny for the province, shaping both academic and cultural life of the students, and in a short passage of time assumed the aura enjoyed by Oxford and Cambridge universities.
- And the iconic buildings of the university, sitting handsomely on the banks of river Ganga, evoke a parallel with the famed British universities.

AIR planning to launch services to other countries

- All India Radio is planning to launch services in several countries such as Japan, Germany, Canada, South Africa and the Maldives and some in the Russian Commonwealth.
- Its aim is to supplement the government's diplomatic efforts and outreach to the Indian diaspora, an official said.

Page: 4



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DPCs have started the process of preparing district development plans in Kerala

- Reviving the bottom-up planning approach yet again, District Planning Committees (DPCs) have started the process of preparing district development plans in full steam.
- Following the revival of decentralised planning and development in the State under the 13th Plan.
- DPCs have once again become the pivots of the planning process and the government has taken the first step to move towards an integrated State Plan that would have key inputs from the district plans.
- This approach runs contrary to that of the previous government that virtually neutralised the DPCs and made a move for forming a high-power council above the State Planning Board for preparing development plans.
- Each DPC would now function like a secretariat that coordinates local governments as well as various departments, missions, universities and research institutions in their purview for sourcing statistics and eliciting expert views on development and other allied issues.
- This would lead to optimum use of human, natural and financial resources and also avoid duplication of projects from the grassroots to the apex level.
- The DPCS have been armed with wide powers, but the thrust is on integrating the projects prepared by local bodies and prepare a draft district development plan.
- Such plans would set the ground for a meaningful sharing of scarce natural resources including water and also conservation of nature. This also extends to other sectors such as industry, health, education, housing, power, SC/ST development and welfare and such others too.
- The committees could also seek the assistance and advice of agencies functioning outside their purview too.
- Experts from all sectors, especially outside the district, could be invited for consultations to prepare the development Plan.
- Specific deadlines have been set for preparing the plans and it is being monitored by the Statelevel committee headed by Chief Minister PinarayiVijayan.

PM wants participation of 125 crore Indians for Clean India

- PM said that "1,000 Mahatma Gandhis or one lakh Narendra Modis" could not achieve the goal of a "Clean India" without an "ideological movement" and the participation of 125 crore Indians.
- He was addressing a gathering to mark three years of the Swachh Bharat Mission. He said he
 had been severely criticised when he had initiated the programme, stepping out with a broom to
 launch it.
- People went to the extent of saying that the Prime Minister was making these statements just for the purpose of making a speech, Mr. Modi said.

Page: 5



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STUDY MATERIAL





- People, including fellow politicians, had slammed him for "spoiling" the October 2 holiday of children by launching the mission, Mr. Modi said.
- Asserting that he was convinced that the path shown by Mahatma Gandhi could not be wrong, he said he had endured a lot of criticism.
- About five years ago, when children were seen cleaning their schools, it would create
 controversy with even parents criticising teachers. But now, children helping clean schools was
 seen as positive news, he added.
- Mr. Modi stressed the plight of women who had to go out every day before dawn for ablutions.
 He spoke on how women, even if there was a need during the day, waited for sunset, adversely affecting their health.
- He conceded the criticism that many of the toilets constructed by the government were in disuse.
- He lauded the involvement of school students in the mission.
- "If we make cleanliness our religion, then each and every family would save Rs. 50,000 annually and also protect themselves from any problems arising due to illness," he said quoting from a Unicef report.

Specific targets asked from every ministry

- The Cabinet Secretariat has asked all Central government departments to work out specific targets to be achieved by 2022, when India will complete 75 years of independence.
- The Ministries have also been asked to adopt the tenet of 'minimum government, maximum governance' in their work, by using technology, so as to improve processes and service delivery.
- Prime Minister Narendra Modi is monitoring the Ministries' progress in implementing projects and policy initiatives under the e-Samiksha mechanism for tracking the progress on projects and policy initiatives on a real-time basis.
- Most Ministries have responded with some broad goals. For instance, the Labour and Employment Ministry has said it will introduce a policy for regulating private employers, amend the Contract Labour Act, 1970, to spur job creation and bring in a national domestic workers' policy.
- Separately, the Departments have been told to identify five-seven major reform areas that need attention, while highlighting 'transformative changes' already undertaken.
- The Ministries have also been asked to ensure that there is no difference in their responses to questions raised in Parliament by MPs and questions received under the Right to Information Act.

President appointed a commission to examine the sub-categorisation of OBCs

- President appointed a commission to examine the sub-categorisation of Other Backward Classes (OBCs) to ensure that the more backward among the communities can access the benefits of reservation.
- The five-member panel will be headed by retired Chief Justice of the Delhi High Court G. Rohini.

Page: 6



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- Sub-categorisation of the OBCs will ensure that the more backward among the OBC communities can also access the benefits of reservation for educational institutions and government jobs.
- The decision, taken on the birth anniversary of Mahatma Gandhi, reinforces, in the spirit of his teachings, the government's efforts to achieve greater social justice and inclusion for all, and specifically members of the OBC.
- The Joint Secretary in the Department of Social Justice and Empowerment will be its secretary. J.K. Bajaj would be its member, while the Director of the Anthropological Survey of India and the Registrar-General and Census Commissioner are ex-officio members.
- The terms of reference of the commission are to "examine the extent of inequitable distribution of benefits of reservation among the castes or communities included in the broad category of OBC with reference to such classes included in the Central list; to work out the mechanism for sub- categorisation."

INS Chakra suffered damage in an accident

- India's nuclear-powered attack submarine INS Chakra reportedly suffered some damage in an accident.
- It is not known whether it happened while sailing off the coast of Visakhapatnam or while negotiating the narrow channel while entering the harbour. Sources say that the sonar dome, which is located in the bow of the submarine just below the torpedo tubes, was damaged.
- INS Chakra is based at INS Virbahu, the submarine base in Visakhapatnam, and the Eastern Naval Command is tight-lipped about the incident.
- The Akula-class attack submarine (SSN) is on a 10-year lease period from Russia and is the second nuclear sub after the indigenously built INS Arihant.
- ThoughINS Chakra is a nuclear submarine it does not carry any nuclear-tipped missile.
- Originally named as K-152 Nerpa, the sub was handed over to the Indian Navy in 2011 and was commissioned as INS Chakra. It was basically inducted to serve as a training ground for officers and crew who would later handle India's indigenously built SSBN INS Arihant class of nuclear submarines.

Northeast monsoon to be normal

- The northeast monsoon this year is most likely to be normal over the south peninsula, according to a bulletin from the Indian Meteorological department.
- The forecast outlook released for the northeast monsoon over the south peninsula predicted that the region, including Tamil Nadu, coastal Andhra Pradesh, Rayalaseema, Kerala and south interior Karnataka, would receive between 89% and 111% of the long period average (LPA) rainfall for the region.

Page: 7



UPSC EXAM 2018 STUDY MATERIAL





- The LPA of the monsoon in the region based on data between 1951 and 2000 is 332.1 mm. However, weather enthusiasts in the State were disappointed as there was no specific prediction for Tamil Nadu, which gets 50% of its annual rainfall from the northeast monsoon.
- Officials of the meteorological department here noted that the forecast for Tamil Nadu would not have been included as the forecasting models may not have sufficient skill to predict the monsoon.
- The northeast monsoon usually sets in around October 20.

Excise duty on petrol, diesel cut

- The government slashed the excise duty on petrol and diesel by Rs. 2 per litre, effective from October 4.
- This decision has been taken to cushion the impact of rising international prices of crude petroleum oil and petrol and diesel on retail sale prices as well as to protect the interest of common man.
- The move comes days after senior Ministers defended the high tax levies on petroleum products.
- Petroleum Minister Dharmendra Pradhan and Finance Minister ArunJaitley have reiterated several times in recently that the government was not considering a cut in the excise duties in the face of rising fuel prices.
- According to official data, the retail selling prices (RSP) of petrol and diesel in Delhi rose to Rs.
 70.88 per litre and Rs. 59.14 per litre respectively, on October 3, 2017. These prices were Rs.
 63.13 and Rs. 53.47, respectively, three months ago.

SoumyaSwaminathan appointed as Deputy directors general of WHO

- The World Health Organization (WHO) appointed SoumyaSwaminathan one of two deputy directors general, the first time such a post has been ever created within the organisation.
- The position is also the highest post held by an Indian in the WHO. Dr. Swaminathan is currently the Director General of the Indian Council of Medical Research (ICMR).
- Dr. Swaminathan has been appointed as Deputy Director General for Programmes and Ms.
 Jane Ellison, who was Special Parliamentary Adviser to the UK's Chancellor of the
 Exchequer, has been appointed as a Deputy Director General for Corporate Operations
 (DDC).
- Dr. Swaminathan is a paediatrician and a globally-recognised researcher on tuberculosis and HIV, who has over 30 years of experience in clinical care and research. From 2009 to 2011, according to the WHO, she also served as Coordinator of the UNICEF/UNDP/World

Page: 8



UPSC EXAM 2018 STUDY MATERIAL





Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) in Geneva.

- She has been a member of several WHO and global advisory bodies, including the WHO
 Expert Panel to Review Global Strategy and Plan of Action on Public Health, Innovation and
 Intellectual Property, the Strategic and Technical Advisory Group of the Global TB
 Department at WHO. She was also the Co-Chair of the Lancet Commission on TB.
- The announcement was made by WHO's director general TedrosAdhanom Ghebreyesus.
 Representatives from 14 countries were chosen to be part of Ghebreyesus' team and 60% of them are women, according to a statement from the organisation.

SC issues notice on donations to parties

- The Supreme Court asked the Centre and the Election Commission to respond to a petition challenging the various amendments made through Finance Act 2017 and Finance Act 2016 in various statutes, saying these changes have opened the floodgates for unlimited corporate and foreign donations to political parties.
- A Bench led by Chief Justice of India Dipak Misra issued notice on the petition filed by the Association for Democratic Reforms and Common Cause seeking to strike down the amendments made to the Companies Act, the Income Tax Act, the Representation of the People Act, the Reserve Bank of India Act and the Foreign Contribution Regulation Act.
- The petitioners, represented by Prashant Bhushan and Neha Rathi, said the amendments, introduced as money Bills, legitimise electoral corruption, while ensuring complete nontransparency in political funding.
- "The amendments in question have opened the floodgates to unlimited corporate donations
 to political parties and anonymous financing by Indian as well as foreign companies which
 can have serious repercussions on the Indian democracy. The said amendments have
 removed the caps on campaign donations by companies and have legalised anonymous
 donations," the plea said.

SC questions Kerala HC on the annulment of inter-religion marriage

- After ordering an NIA probe almost two months ago into the alleged conversion and marriage of a Hindu woman to a Muslim man in Kerala, the Supreme Court questioned the very annulment of the inter-religious marriage by the Kerala High Court and the legality of the woman's father keeping her in his custody for the past several months.
- A Bench of Chief Justice of India Dipak Misra and Justices A.M. Khanwilkar and D.Y.
 Chandrachud asked how the Kerala High Court had, on May 24, annulled the marriage

Page: 9



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of the woman, who is an adult, while exercising writ jurisdiction under Article 226 of the Constitution.

- "We will hear logical and legal arguments on two issues can the HC nullify a marriage exercising jurisdiction under Article 226 and was an NIA probe necessary," Chief Justice Misra said, posting the case for October 9.
- The Court said it could either appoint a loco parentis or send her somewhere safe. Additional
 Solicitor General Tushar Mehta for the NIA countered that the SC under Chief Justice Misra's
 immediate predecessor, Justice (now retired) J.S. Khehar, had on August 16 transferred the
 case from the Kerala Police to the NIA, which had found a "pattern" of such conversions and
 marriages.
- Senior advocate Dushyant Dave and advocate HarisBeeran, appearing for the Muslim man and the woman's husband, Shafin Jahan, strongly objected to the SC order for an NIA investigation.
- Mr. Jahan has filed a plea for a recall of the order. "The order for an NIA investigation strikes at
 the very foundation of multi-religious society... Call the girl here," Mr. Dave submitted. The State
 government, which had agreed in the SC to hand over the probe in favour of the NIA, also came
 forward with a plea to file an affidavit.

Ministry of Health grabs SwachhtaPakhwada award

- The Ministry of Health and Family Welfare has been adjudged as the best department for its contribution during 'SwachhtaPakhwada', an inter-ministry initiative of the Swachh Bharat Mission. The Ministry observed the SwachhtaPakhwada from February 1-15.
- The award was presented on the third anniversary of the Mission on October 2. Health Secretary C. K. Mishra received the award on behalf of the Ministry.
- "SwachhtaPakhwada was observed within the Ministry offices, in Central Government Hospitals, and in public health facilities in all the States/UTs," noted a release issued by the Ministry.

Untrained teachers can now access training material

- Fifteen lakh untrained school teachers have enrolled for a training course with the National Institute of Open Schooling (NIOS), an autonomous institution under the Ministry of Human Resource Development, to get themselves trained by 2019 to be able to retain their jobs.
- This has happened just after Parliament passed an amendment to the Right to Education Act to offer them a last window to acquire proper training, something seen as essential to the provision of quality education in government and private schools.
- The highest number of applications has been received from Bihar over 2.8 lakh —

Page: 10



UPSC EXAM 2018 STUDY MATERIAL





followed by Uttar Pradesh (1.95 lakh), Madhya Pradesh (1.91 lakh), West Bengal (1.69 lakh) and Assam (1.51 lakh).

- The NIOS has designed online courses to enable them to acquire a Diploma in Elementary Education (D.El.Ed).
- The course will be offered through 'Swayam', a platform for online education, imparting knowledge through Dish TV. This is for the first time in the world that such high number of applications have been received for an online course.
- Among the over 12-lakh untrained teachers who have enrolled for the course, 9.25-lakh are from private schools and 3.53-lakh are employed in government schools.
- While only those can acquire this diploma who scored at least 50% in Class-12, Prof.
 Sharma said at the launch that those who could not could appear again with the NIOS to try and get the requisite marks.
- A mobile application has also been developed to help teachers seek any clarifications and solutions.
- The course will spread over four semesters and have 1,080 lectures accessible in 10 languages.

Online harassment on a rise

- Eight out of 10 people in India have experienced some form of online harassment, with 41% of women having faced sexual harassment on the web, according to a new survey commissioned by cybersecurity solutions firm, Norton by Symantec.
- The online survey was conducted in the summer of 2017 with a sample size of 1,035 respondents drawn mainly from Tier 1 cities, with the objective of understanding Indian exposure to online harassment.
- The most common forms of online harassment were found to be abuse and insults, which was reported by 63% of respondents. This was followed by malicious gossip and rumours (59%), malicious comments/threats on a social media site (54%), trolling (50%), and attacks/abuse from a coordinated group (49%).
- The study also found that of the four countries from the Asia-Pacific region which were surveyed (India, Australia, New Zealand, and Japan), India recorded the highest level of online harassment, with 45% of the respondents having experienced cyberstalking.
- With Indians spending more time on social media platforms and mobile applications, it is important that online users take basic precautions to protect their safety and security to avoid

Page: 11



UPSC EXAM 2018 STUDY MATERIAL





unwanted contact.

- As per the study, in 42% of the cyberbullying cases and in nearly half of all instances of cyberstalking where the victim was a woman, the perpetrator was a stranger.
- While the survey revealed that men and women reported similar experiences of online harrassment, people with disabilities and poor mental health were more susceptible to some of the more serious threats.
- Seventy-one per cent of people with disabilities or poor mental health reported receiving threats of physical violence, while 67% people were cyberbullied.
- Threats of physical violence experienced by the respondents was highest in Mumbai (51%), followed by Delhi (47%), and Hyderabad (46%).
- Similarly, online sexual harrassment was reported to be highest in Delhi and Mumbai (43%), followed by Kolkata (37%) and Bengaluru (36%).

Rajnish Kumar to succeed Arundhati Bhattacharya

- The government has appointed Rajnish Kumar as chairman of the State Bank of India (SBI), with effect from October 7. He will succeed Arundhati Bhattacharya whose term ends on October 6.
- In a notification, the government said Mr. Kumar will have a three-year term.
- Now he is of the four managing directors of the SBI, looking after the domestic banking sector as head of the National Banking Group.

Panel to suggest on better utilization of water resources in northeast

- The Vice-Chairman of the NITI Aayog will be heading a committee to study and offer suggestions on how to better utilise the water resources in the Northeastern region.
- A statement of the Ministry for Development of North East Region (DoNER) said the Committee would submit its report by June 2018.
- "The committee would facilitate optimising benefits of appropriate water management in the form of hydro-electric power, agriculture, bio-diversity conservation, reduced flood damage erosion, inland water transport, forestry, fishery and eco-tourism," said the Ministry.
- Prime Minister Narendra Modi had announced the decision on August 1 when he visited Assam,
 Manipur, Nagaland and Arunachal Pradesh to survey the flood-hit areas.
- Apart from an interim relief package of Rs. 2,000 crore, he had suggested a holistic approach to tackle the problems of floods and harness the water resources.

Page: 12



UPSC EXAM 2018
STUDY MATERIAL





Turtle sanctuary in Allahabad

- The marquee National Mission for Clean Ganga (NMCG) will establish a turtle sanctuary in Allahabad, as part of efforts to protect the rich aquatic biodiversity of river Ganga from "escalating anthropogenic pressures.
- The project at an estimated cost Rs. 1.34 crore would contribute to the sustenance of more than 2,000 aquatic species, including threatened gharials, dolphins and turtles in the Ganga.
- The Ganga and Yamuna at Allahabad are home to some of the most endangered fauna like turtles (Batagurkachuga, Batagurdhongoka, Nilssoniagangetica, Chitraindica, Hardellathurjii etc.), the National Aquatic Animal — Gangetic dolphin (Platanistagangetica), the Gharial (Gavialisgangeticus) and numerous migratory and resident birds.
- The government had planned such a sanctuary in Varanasi in 1989 under the Ganga Action Plan-I.
- However, its future hangs in the balance as the Uttar Pradesh government and the Union Environment Ministry are considering de-notifying it over construction activities along the bank.

Zameen Samadhi Satyagraha

- In an unusual gesture to draw attention to their plight, more than 50 farmers dug pits and buried themselves neck-deep in the mud for three days at Nindar village, in protest against acquisition of their land by the Jaipur Development Authority (JDA) for a housing project.
- The farmers began the "Zameen Samadhi Satyagraha" on October 2, Mahatma Gandhi's birth anniversary, after their 17-day-long agitation failed to make an impact on the authorities.
- Women and children also joined the protest and accused the State government of forcibly acquiring their farmland and providing inadequate compensation.
- The JDA acquired 1,350 bigha land in Nindar village in 2010 for a housing project and deposited Rs.60 crore in the court when some land owners challenged the acquisition. Farmers, who refused to part with 400 bigha land and accept the compensation, contend that market rates have spiralled in the last seven years.
- The Samiti delegation had placed the demand for appointment of a committee, with farmers' representation, on the issue and a fresh survey of the land which the government had marked for acquisition.

Page: 13



UPSC EXAM 2018
STUDY MATERIAL





PM held discussions with Jaitley, Shah over economy slowdown

- After promising to take all necessary steps to revive the economy and fix the problems faced by businesses on account of the switchover to the Goods and Services Tax regime, Prime Minister Narendra Modi held extensive talks with BJP president Amit Shah and Finance and Corporate Affairs Minister ArunJaitley.
- The top-level discussions could be a precursor to some relief measures that may be announced when the GST Council meets in the capital, compelling Mr. Jaitley to skip the World Economic Forum's India Economic Summit.
- Mr. Jaitley was scheduled to address about 450 delegates at the summit to discuss India's economic, political and social outlook from 7.15 p.m. till 8 p.m.
- Incidentally, at least two of the co-chairs of the Summit voiced concern about the lack of jobs, layoffs among top firms and the lack of easy bank credit for small and medium enterprises.
- While Mastercard US president and CEO Ajay Banga said that jobs were the one challenge that India needed to address, Bharti Enterprises chairman Sunil Bharti Mittal voiced concern about 'employment reduction' by top 200 Indian firms and mooted a rethink on businesses' approach to society.
- Mr. Shah also rushed to the capital for the meeting with the PM, abandoning his original schedule that included taking part in the politically significant JanarakshaYatra in Kerala led by the State unit president KummanamRajasekharan over a stretch that includes the native place of the State's Chief Minister PinarayiVijayan.
- While the RBI revised India's growth projections for this year downwards from 7.3% to 6.7%, the PM had slammed critics for spreading pessimism about one bad quarter.
- The PM had asked the GST Council to review all the problems arising from the new indirect tax regime.
- He assured traders that the government was not opposed to necessary changes to simplify the system that had been beset with problems in IT infrastructure for filing returns, hold-ups in tax refunds and confusion about the constantly evolving rules of the game, since its rollout this July.

Doklam issue

- In the first formal statement from the military leadership after the disengagement at Doklam, Air Chief Marshal B.S. Dhanoa confirmed that Chinese troops were still present in the area.
- "Their [China's] forces in the Chumbi Valley are still deployed, and I expect that they will withdraw as the summer exercise gets over," he said, responding to questions at the annual press conference ahead of the Air Force Day on October 8.
- He said China holds military exercises every year in summer and so their forces were close by

Page: 14



UPSC EXAM 2018
STUDY MATERIAL





when the Doklam standoff happened. However, he added that there was no tension in the air, despite the faceoff on the ground. "There might have been a standoff on the ground. In the air, there was no standoff," he said, as both countries respected the Confidence-Building Measures (CBM) in place.

• The two armies got into a standoff at Doklam near the India-Bhutan-China trijunction on June 16 after Indian soldiers prevented the Chinese from building a road in the disputed territory.

ILO's modern slavery report

- The government has written to the International LabourOrganisation (ILO) challenging a recent study on "modern slavery" conducted by the Australia-based Walk Free Foundation (WFF) on behalf of the global body. The report does not mention India.
- The Labour Ministry shot off a strong letter to the ILO regarding its report titled 'Global Estimates of Modern Slavery: Forced Labour and Forced Marriage 2017.'
- The report, released on September 19, does not contain any India-specific findings, barring a mention that 17,000 people were interviewed for the survey.
- The letter follows a missive from the Intelligence Bureau (IB) to the government about documentation by multiple international organisations on slavery in India that can hurt India's image and exports.
- In a letter to the Prime Minister's Office and Labour Ministry, the Intelligence Bureau (IB) mentioned the following reports the 2016 United Nations Special Rapporteur Report on contemporary forms of slavery, including its causes and consequences, the 2015 ILO Committee of Experts on the Application of Conventions and Recommendations on Forced Labour, the 2016 Global Slavery Index 2016 and ILO-WFF joint report of 2017.
- Union Labour Secretary M. Sathiyavathy wrote a letter to ILO Director General Guy Ryder doubting the authenticity of the survey. The letter accessed by The Hindu stated that "neither the Central government was consulted before the study nor its credibility has been established."
- Although country-wise figures were not mentioned in the 2017 ILO-WFF report, the study said 40.3 million people were victims of 'modern slavery' in 2016.

SC to hear freedom of speech issue

• The Supreme Court referred to a five-judge Constitution Bench several issues such as whether a public functionary or a Minister could claim freedom of speech while expressing views on sensitive matters which were under investigation.

Page: 15



UPSC EXAM 2018
STUDY MATERIAL





- A bench headed by Chief Justice Dipak Misra considered the questions framed on the issue by senior advocates Fali S. Nariman and Harish Salve and said, "We are sending it to a Constitution Bench".
- The top court had taken note of a controversial statement of former Uttar Pradesh Minister Azam Khan that the Bulandshahrgangrape was part of a "political conspiracy". Mr. Khan had tendered an unconditional apology which was accepted.
- The bench, comprising Justices A. M. Khanwilkar and D.Y. Chandrachud, also said besides the issues framed by the two lawyers, the Constitution Bench would also frame questions to be dealt by it.
- The court was hearing a plea filed by a man, whose wife and daughter were allegedly gangraped in July last year on a highway near Bulandshahr, seeking transfer of the case to Delhi and lodging of an FIR against Mr. Khan.

Tripartite meeting

- The decision to create seven new districts in Manipur, which led to massive protests and blockade of national highways linking the State, will be reviewed at a tripartite meeting called by the Union Home Ministry.
- The representatives of the United Naga Council (UNC) and the Central and State governments will attend the meeting.
- The UNC, the apex political body of the Nagas residing in the hill districts of Manipur, staged
 protests after the districts were created, alleging that the measure would bifurcate the ancestral
 land of the Nagas. It demanded that the meeting be held in Senapati, its headquarters, and not
 in Imphal. It also demanded that the Centre send its representative to the meeting.
- In 2016, the organisation imposed an economic blockade for 139 days on National Highway-2 (Imphal-Dimapur) and National Highway-37 (Imphal-Jiribam), the lifelines of the landlocked Manipur. The blockade was withdrawn in March after the BJP came to power in the State and assured the UNC that its demands would be considered, the official said.

Karnataka's efforts in popularizing millets yield results

- Karnataka's efforts in popularising millets, which was the staple a couple of generations ago, appears to have yielded results if the indicators of a nationwide study by the National Nutrition Monitoring Bureau (NNMB) to assess urban nutrition is anything to go by.
- Karnataka is the third highest consumer of millet among 16 States studied, with Maharashtra and Gujarat occupying the first two slots. However, the picture is not very rosy in terms of consumption of other food items.

Page: 16



UPSC EXAM 2018 STUDY MATERIAL





- Except for intake of pulses and legumes and roots and tubers, where Karnataka's consumption
 pattern matches with the Indian Council of Medical Research's (ICMR) recommended daily
 intake (RDI), it is far behind the RDI in terms of consumption of green leafy vegetables, milk and
 milk products and fats and oils.
- For years millets were dismissed as the food of the poor. Now, that attitude is slowly shifting and one of the reasons for this is the growing urban demand for organic and nutritious food.
- The demand is high in Maharashtra, Gujarat and Karnataka. It is the lowest in Bihar, Kerala and Assam.
- Karnataka in also the only State to have included millets such as jowar and ragi in its Public Distribution System since July 2015 in accordance with recommendations in the National Food Security Act, 2013.

Indians consume far less than recommended nutritious food

- A nation-wide study, carried out by the National Nutrition Monitoring Bureau (NNMB) to assess urban nutrition, shows not only a great diversity in food consumption in 16 States in the country, but also that Indians consume far less than the recommended quantum of several micronutrients and vital vitamins.
- Andaman and Nicobar Islands reported the highest intake of flesh foods, including meat and fish, while Odisha has the highest consumption of green leafy vegetables (GLV). On an average, while the recommended dietary intake of GLV is 40g/Cu/day, the consumption in the country is 24g/Cu/day.
- Madhya Pradesh has the lowest intake of flesh foods, and Kerala consumes the least green leafy vegetables.
- If Madhya Pradesh has a sweet tooth with the highest intake of sugar and jaggery, Odisha and Assam have the highest intake of salt. Rajasthan is high on the intake of fats and oils as well as milk and milk products.
- The study, led by AvulaLaxmaiah, scientist (Director Grade) from the National Institute of Nutrition (NIN), the country's premier nutrition research institute, was released recently.
- The researchers used the method of a 24-hour dietary recall to collect food and nutrient information from 1.72 lakh people in 16 States.
- While the average intake of cereals and millets was found to be 320g/Cu/day, which is lower than the recommended dietary intake (RDI), the intake of pulses and legumes was about 42g/Cu/day.
- This is on par with the suggested level of the Indian Council of Medical Research, said Dr. Laxmaiah.

Page: 17



UPSC EXAM 2018 STUDY MATERIAL





For PPF, KVP Aadhaar is mandatory

- The government has made linking Aadhaar mandatory for the Public Provident Fund, the National Savings Certificate and the KisanVikas Patra schemes.
- In four notifications, the government said subscribers had till December 31 to link their Aadhaar to the schemes.
- Every depositor who has not given his Aadhaar number at the time of application shall submit it to the Post Office Savings Bank or accounts office concerned on or before December 31, the notifications said.
- Provided that where Aadhaar number has not been assigned, the depositor shall submit proof of application of enrolment for Aadhaar.
- The government has already made it mandatory to link Aadhaar to PAN by December 31 and to SIM connections by February 2018. Some 135 schemes, including free cooking gas, kerosene and fertilizer subsidy, targeted public distribution system and MGNREGA, are reportedly to be linked to the biometric identification.

Section 354(5) of Crpc revisited

- The court clarified that it was not questioning the constitutionality of the death penalty, which has been well-settled by the apex court, including in Deena versus Union of India and earlier in the Bachan Singh case reported in 1980.
- The court said Section 354 (5) which mandates death by hanging of the Code of Criminal Procedure has already been upheld.
- However, the provision of hanging to death may be re-considered as "the Constitution of India is an organic and compassionate document which recognises the sanctity of flexibility of law as situations change with the flux of time."
- The fundamental right to life and dignity enshrined under Article 21 of the Constitution also means the right to die with dignity, the court said.
- The order comes on a writ petition filed by Delhi High Court lawyer Rishi Malhotra, who sought the court's intervention to reduce the suffering of condemned prisoners at the time of death.
- Mr. Malhotra said a convict should not be compelled to suffer at the time of termination of his or her life.

Neelakurinji set to cast its spell

Page: 18



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- With another gregarious blooming of Neelakurinji (Strobilantheskunthiana) expected in July next year, managers of the Eravikulam National Park (ENP) are drawing up plans to meet the rush of visitors.
- The mass flowering of the shrub, found in the shola forests of the Western Ghats, was a crowd-puller in 2006 as over five lakh visitors visited the park during the season.
- The park saw around 5,000 visitors a day, much above the visitor capacity of the region.
- The species flowers once in 12 years and the unusually long cycle adds to its charm. Kunthina is usually found at an altitude of 1,600 metres. Munnar and Eravikulam offer the best view of the mass flowering, though the species can be seen up to the Nilgiri hills.
- In 2006, around 70 sq. km. was draped in the purple-blue flowers. Mass flowering was witnessed at Kambakkallu, Kadavari, and Eravikulam.
- In the grasslands of Eravikulam, the plants reach a height of around 50 cm. They may grow up
 to a metre before the flowers bloom. The flowers are expected to bloom en masse in July next
 year.
- The hills and valley of Rajamala will be in a floral wrap during the peak season. The visual treat may continue till September, said a park manager.

The KudumbasreeMission to conserve indigenous seeds

- After empowering rural women folk in the State, the Kudumbasree Mission is gearing up to script another success story by conserving traditional rice seeds of Wayanad.
- "The project envisages to conserve and propagate seven vanishing indigenous rice seeds, including aromatic rice varieties such as Gandhakasala and Jeerakasala; short-term rice seed Palthondi; medicinal rice varieties such as Chenellu and Rakthashali; and long-term term rice seeds such as Veliyan and Adukkan in the district," P. Sajitha, coordinator, Kudumbasree Mission, Wayanad, told The Hindu.
- The project has been executed through joint liability groups (JLGs) of the mission. The pilot project has been executed by the mission through the Kairaly JLG and five acres of fallow land at Kenichira under the Poothadigrama panchayat has been utilised for the purpose this season.
- "Bioslurry pellet method is an innovative method of rice cultivation developed by AjiKunnel, a
 progressive farmer at Ambalavayal in the district, and it will save both time and money as there
 is no need to prepare a nursery for paddy plants," said K.P. Jayachandran, assistant
 coordinator, Kudumbasree Mission, Wayanad.
- The mission is planning to expand the project on 300 acres next year. "We will buy the seeds after harvest from the JLG group at a premium price and disburse it to 300 JLGs in the district next season to promote the seeds," Mr. Jayachandran said.

Page: 19



UPSC EXAM 2018 STUDY MATERIAL





 The Kudumbasree State Mission has allotted Rs. 1 lakh for the project and the Agriculture Department would provide an incentive of Rs. 50,000 for the JLG under the HarithaKeralam Mission, he said.

Reopening Gandhiji assassination case

- The Supreme Court appointed an amicus curiae to investigate if it is possible to reopen the Mahatma Gandhi assassination case.
- A Bench led by Justice S.A. Bobde appointed Amarendra Sharan as amicus curiae to go into the legal issues in considering an investigation to find out if there was a "larger conspiracy" behind the Mahatma's assassination.
- Pankaj KumudchandraPhadnis has filed a petition seeking constitution of a Commission of Inquiry for the investigation. The Bombay High Court had rejected his plea by Mr. Phadnis.
- His petition has sought the expunging of remarks derogatory to Marathi people in general and Veer Savarkar in particular, by the J.L. Kapur Commission, which investigated the assassination.
- The Bombay High Court dismissed the petition on June 6 last year on the ground that the findings were recorded by a competent court and confirmed right up to the apex court and, secondly, the Kapur Commission had submitted its report and made the observations in 1969.

Trends in greenhouse gas emissions have gone up in 2016 in India

- Trends in global CO2 and total greenhouse gas (GHG) emissions show that India's emissions have gone up by 4.7% in 2016, according to the latest report by PBL Netherlands Environmental Assessment Agency.
- For most major GHG emitters in the world, the emission figures have gone down, barring India and Indonesia.
- The Dutch strategic agency's report shows that emissions in the U.S. saw a fall of 2%, the Russian Federation 2.1%, Brazil 6.1%, China 0.3%, and, within the European Union, the United Kingdom 6.4%. The report's data is based on the Emission Database for Global Atmospheric Research (EDGAR) produced by the European Union.
- In 2016, the five largest emitting countries and the European Union accounted for 68% of total global CO2 emissions and about 63% of total global GHG emissions. Most of the emissions consist of CO2, about 72%.
- But methane (CH4), nitrous oxide (N2O) and fluorinated gases (F-gases) also make up substantial shares of 19%, 6% and 3%, respectively. Over the past two years, total global

Page: 20



UPSC EXAM 2018
STUDY MATERIAL





- greenhouse gas emissions, excluding those from land use change and forestry, have shown a slowdown in growth, reaching 49.3 gigatonnes CO2 equivalent in 2016.
- Over the past three years, non-CO2 GHG emissions have continued to grow somewhat faster than CO2 emissions: by 1.5% (2014), 1.2% (2015) and 1.0% (2016). CO2 over the same period increased by a respective 0.8%, -0.2% and 0.3%.
- Globally, the combined share of non-CO2 greenhouse gas emissions is about 28% in total GHG
 emissions, but it varies for the largest countries: 11% for Japan and 31% for India.
- China's current share is estimated at 20%, that of the United States and the European Union at 23%, and Russia's at 25%.
- Emissions do hurt the environment, but then the EDGAR database that this report draws upon only looks at emissions from 1990 onward when the whole world woke up to the problem of climate change. CO2 emissions have a 100-year residence period in the atmosphere. So, if you include the cumulative emissions data from before 1990, every developed nation will outnumber India.
- According to India's own submission at the United Nations, its cumulative emission is 3 % of the global emission.

SC lifts veil on Collegium recommendations

- In a historic move to usher in transparency, the Supreme Court Collegium, headed by Chief
 Justice of India Dipak Misra, has resolved to go public with all its recommendations to the
 government on judicial appointments, transfers and elevations to the High Courts and the
 Supreme Court.
- The recommendations will be uploaded on the Supreme Court's official website.
- The Collegium will further "indicate" the reasons for which it has decided to recommend or reject names for appointment, transfer or elevation to the High Courts and the Supreme Court.
- As a start, the Supreme Court has already posted online detailed reasons for its October 3, 2017 recommendations for judicial appointments to the Madras HC and the Kerala HC. The details are now available online under the heading "Collegium Resolutions".
- Shrouded in mystery
- The decision taken by Chief Justice Misra's Collegium to open up is unprecedented. During its
 entire existence of 24 years ever since it was introduced in the Second Judges case
 judgment in 1993 the Collegium's working has been shrouded in mystery.
- The secretive nature of the functioning of the Collegium continued through the tenures of 20 Chief Justices of India.

Page: 21



UPSC EXAM 2018 STUDY MATERIAL





INDIA AND WORLD

China ignores a standard practice

- India and China may have made peace after the Doklam crisis at the BRICS summit, but suspicions still linger on the ground. China has not invited India for the ceremonial Border Personnel Meeting (BPM) along the Line of Actual Control (LAC) to commemorate its National Day on October 1.
- "It is a standard practice to invite [India]. But we did not get any invitation from China for the BPM this time," an official source confirmed.
- This development comes before the crucial National Congress of the Communist Party of China, which is considered very important for President Xi Jinping.
- The last time a similar incident occurred was on August 15 to commemorate India's Independence Day at the height of the Doklam stand-off. While India had sent an invitation, China did not respond to it. However, both sides exchanged sweets on that occasion.
- The two sides ended the stand-off just before the BRICS summit in China, where Prime Minister Narendra Modi and President Jinping held bilateral discussions on the sidelines.
- Ceremonial BPMs are held on National Days and, usually, the process of inviting and confirming is carried out a couple of days in advance. It is seen as an opportunity for each side to showcase its traditions and cultural diversity to the other.
- There are five BPM points along the Line of Actual Control (LAC) at Bum La and Kibithu in Arunachal Pradesh, Daulat Beg Oldi and Chushul in Ladakh, and Nathu La in Sikkim.

India-Bangladesh

- Union Finance Minister ArunJaitley arrived ahead of India and Bangladesh signing the third line
 of credit (LoC) agreement involving \$4.5 billion to be spent on infrastructure and social sector
 development.
- "His visit will be marked by the signing of the deal... that was announced during Prime Minister Sheikh Hasina's New Delhi visit," a Bangladesh finance ministry spokesman told reporters.
- He said two agreements for the implementation of the third LoC and the 'Joint Interpretative Notes on the Agreement between India and Bangladesh for the Promotion and Protection of Investments' would also be signed in the presence of Mr. Jaitley and his Bangladesh counterpart A.M.A. Muhith.
- The two countries signed the first LoC in August 2010. The second one was inked in March, 2016.

Page: 22



UPSC EXAM 2018
STUDY MATERIAL





• According to the tour schedule, Mr. Jaitley would call on the Bangladesh premier and inaugurate, along with his counterpart, a new scheme for cashless transactions in visa services run by the State Bank of India on behalf of the Indian High Commission.

India -Bangladesh

- Bangladesh signed a \$4.5-billion loan deal with India for developing its infrastructure, health and education.
- The agreement was signed here in the presence of Finance Minister ArunJaitley and his Bangladesh counterpart, A.M.A. Muhith, by Bangladeshi Economic Relations Division Secretary KaziShofiqulAzam and Managing Director of the Export-Import Bank of India David Rasquinha.
- Mr. Jaitley said 17 development projects had been identified under the deal. Of the total amount, about \$500 million will be used for setting up new economic zones for Indian and other investors, said officials of the Finance Ministry and the Bangladesh Economic Zones Authority.
- Bangladesh will use the funds for 17 priority infrastructure projects, which include electricity, railways, roads, shipping and ports.
- As with previous line of credit (LoC) agreements, Bangladesh will pay an interest rate of 1% a year. It will have 20 years to pay back the loans, with a grace period of five years.

Chinese beefed up their presence near Doklam

- A conclave of Army Commanders next week is set to discuss military preparedness along the China border, amid indications that the Chinese may have beefed up their presence near the Doklam standoff site since the disengagement more than a month ago.
- According to sources in the Indian security establishment, the Chinese have 1,500 to 1,700 troops of the People's Liberation Army (PLA) stationed a few hundred metresafrom the standoff site on their side.
- In the locality, Indian surveillance has also detected new bunkers. The sources said road
 construction stores that were moved to the area during the Doklam standoff also remain in the
 area, and some road re-laying has been done on the Chinese side not very far from the standoff
 point.
- At least a couple of official sources admitted that they were uncomfortable about the Chinese presence and activities on the plateau. "It is not status quo ante," an official said. "Ideally, they should withdraw the troops and equipment," he said.

Page: 23



UPSC EXAM 2018
STUDY MATERIAL





- The nearest PLA base is at Yatung which has a battalion headquarters with at least 600 soldiers, and is 12-13 km away.
- Meanwhile, Army sources confirmed that the biannual Army Commanders conference, scheduled to be held from October 9 to 14, would be discussing the Chinese posturing and military preparedness along the border.
- The Indian Army has carried out its own readjustments in the India-China-Bhutan trijunction, with forward deployment of T-72 tanks and BrahMos missiles among other equipment.
- The two Armies were engaged in a standoff at Doklam near the trijunction since June 16 after Indian soldiers prevented the Chinese from building a road in the disputed territory. After prolonged diplomatic negotiations, the two sides announced disengagement on August 28 ending the 73-day standoff.

International

Israel's growing Temple movement

- Israeli Prime Minister Benjamin Netanyahu reacted by installing metal detectors at the entrance to the Temple Mount, which houses some of the holiest sites to the three big Abrahamic religions.
- This caused Palestinians in east Jerusalem to boycott the sacred compound and in the ensuing violence, three Israelis and three Palestinians were killed in the West Bank.
- The increasing volatility, instability and violence, according to Jerusalem Institute for Policy Research senior researcher Yitzhak Reiter, is a result of the erosion of the status quo, which has existed at Temple Mount (Muslims call it Haram al-Sharif) since 1967.
- The status quo allows Muslims to worship in al-Aqsa and the Dome of the Rock, while the Jews worship at the Western Wall.
- Israeli advocacy group IrAmim has also warned against the growing activity of the Temple Movement, an umbrella term for about 30 Jewish groups that want to overturn the status quo and re-establish Jewish sovereignty over the site.
- Particularly noteworthy is the role of the Ministry of Education, which not only funds Temple organisations but aids them in disseminating their ideas through the educational system."
- One of the movement's prominent supporters is Uri Ariel, Minister of Agriculture and Rural Development. Mr. Ariel, who has ascended the Temple Mount a number of times since 2006, has in the past made the controversial call for the Third Temple to be built at the Temple Mount.
- IrAmim, however, fears that implementing this model at the Temple Mount will "constitute a flagrant breach of the status quo and all but guarantee an eruption of violence in Jerusalem".

Page: 24



UPSC EXAM 2018
STUDY MATERIAL





Germany celebrate first same sex marriage

- Two German men made history on Sunday by saying "I do" and becoming the first same-sex couple to marry after decades of struggle, but campaigners say the battle for equal rights isn't over.
- Wedding bells rang out in Berlin, Hamburg, Hanover and other German cities where local authorities have exceptionally opened their doors allowing weddings on the day the law comes into effect.
- The dash to exchange vows comes three months after lawmakers voted to give Germany's roughly 94,000 same-sex couples the right to marry, following a shift in position by Chancellor Angela Merkel.

Bangladesh and Myanmar to form a panel for repatriation of Rohingya refugees

- Amid mounting international pressure on Myanmar to end atrocities on Rohingya people, Bangladesh and Myanmar agreed to form a joint panel for repatriation of Rohingya refugees.
- The joint panel was proposed by Myanmar to take back the Rohingya who had come to Bangladesh, fleeing the violence in the Rakhine State since August 25.
- "Kyaw Tint Swe has shown interest in taking the Rohingya back after forming a joint working group to identify the Rohingya people," said Mr. Ali. However, the Myanmar Minister did not said anything about the framework of the commission.
- This was the first bilateral meeting between the two countries since refugees entered Bangladesh following actions by the Myanmarese security forces in late August. According to the UN, more than five lakh Rohingya people have entered Bangladesh since August 25.
- Mr. Ali also said that Bangladeshi Home Minister Asaduzzaman Khan Kamal will visit Myanmar soon to "discuss with the Myanmar government regarding border security and border management issue".

Congress delays vote on gun silencers

- The U.S. Congress shelved a controversial plan to make it easier to purchase gun silencers, as U.S. President Donald Trump signalled that a future debate about the nation's gun laws was possible. The announcement about the Bill came days after the tragic shooting massacre in Las Vegas, Nevada.
- "That Bill is not scheduled now," House Speaker Paul Ryan told reporters, referring to a measure that also includes language making it more difficult to classify certain ammunition as "armour piercing".

Page: 25



UPSC EXAM 2018 STUDY MATERIAL





- The Sportsmen's Heritage and Recreational Enhancement Act advanced through a key House committee in mid-September, setting up a possible floor vote.
- Following the Las Vegas shooting, gun-control groups and several Democrats warned that the measure would only make it more difficult to locate such shooters. The devices, also known as suppressors, do not eliminate gunshot noise entirely.
- Democrat Hillary Clinton was among those expressing concern about easing access to silencers.
- Mr. Ryan also spoke out against the "horror" of the shooting but stressed that "we can not let the actions of a single person define us as a country".

Madrid under its worst political crisis

- Protesters blocked roads, public transport slowed to a crawl and FC Barcelona refused to train as Catalonia observed a general strike over police violence at a banned weekend independence referendum.
- Schools and some businesses also shut in a dramatic protest bound to further ratchet up fever-pitch tensions with Spain's central government, as Madrid comes under growing international pressure to resolve its worst political crisis in decades.
- The Port of Barcelona reduced services to a minimum, and protesters stood on roads and highways across Catalonia, blocking traffic. On the AP7 highway linking Barcelona to France, two youths set up a folding table and played chess.
- Catalan pro-separatist trade unions, schools and cultural institutions called for the stoppage to "vigorously condemn" the police response to the Sunday poll, in which regional authorities confirmed over 90 people were injured.
- Catalonia's leader said 90% of voters backed independence from Spain, but the central government has vowed to stop the wealthy northeastern region which accounts for a fifth of Spain's economy from breaking away, dismissing the poll as a "farce".
- The government of Prime Minister Mariano Rajoy held emergency talks after Catalan president CarlesPuigdemont that Catalonia had "won the right to an independent state".
- Mr. Puigdemont has appealed for international mediation to help solve the crisis and called for police deployed to Catalonia from other parts of Spain for the vote to be removed.
- The regional government said 2.26 million people took part in the poll, or just over 42% of

Page: 26



UPSC EXAM 2018
STUDY MATERIAL





the electorate.

 Mr. Puigdemont has said he will now present the results to the region's Parliament, where separatist lawmakers hold a majority, and which has the power to adopt a motion of independence.

Bakhshali, Jambudvipa and India's role in science

- London's Science Museum unveiled a new exhibition that traces India's contribution to science and technology over the past 5,000 years. Bringing together pieces from scientific institutes and museums across India as well as those held by British institutions, the Indian High Commission and the museum hope to be able to bring the exhibition to India too.
- The highlight is a folio from the Bakhshali manuscript, loaned to the exhibition by the Bodleian Library in Oxford, which contains the oldest recorded origins of the symbol "zero".
- In September, the Bodleian revealed that new carbon dating research into the manuscript revealed it to be hundreds of years older than originally thought and that it could be dated back to the third or fourth century.
- Another remarkable piece is an 1817 version of Jambudvipa, or Jain map of the world, and a spectrometer from 1928 designed by Nobel Prize winner C.V. Raman. The exhibition also covers significant recent contributions — from the Jaipur foot that has been used across 27 countries to the Intel Pentium processor and the Embrace Nest Neonatal pouch.
- The exhibition also highlights writings by some of the most influential figures, including letters from S.N. Bose to Albert Einstein, held by the Hebrew University of Jerusalem, and selected papers of Srinivasa Ramanujan, held by Trinity College Cambridge.
- It also includes an index chart of the great trigonometrical survey of India from 1860, which it says "no map in the world at that time could rival" for scale, detail and accuracy.
- A separate exhibition charts the growth of photography in India. One section of it focusses on 1857 and includes the bizarre growth of what it refers to as "mutiny tourism", which led to sites of conflict and suffering getting turned into "postcards, stereocards and prints for a burgeoning British tourist industry".
- It also includes works by artists like Ahmad Ali Khan, the court photographer to the last king of AVadh, and Felice Beato. The exhibition also focuses on 1947, and includes works by photojournalists Henri Cartier Bresson and Margaret Bourke-White.

Page: 27



UPSC EXAM 2018
STUDY MATERIAL





Japan shows interest in Silk Road

- Avoiding a zero-sum trap, Japan has signalled its intent to take advantage of the China-led Belt and Road Initiative (BRI), notwithstanding its high-profile engagement with India, as seen during Prime Minister Shinzo Abe's India visit.
- The multi-track diplomatic approach pursued by Japan became evident when its logistics giant Nippon Express signed a major cargo deal in mid-August with Kazakhstan's state railway company.
- Under the agreement, the two companies will team up to transport goods from China's east coast to Europe through Central Asia.
- Nippon Express will be involved in aggregating goods from Japan, Korea and other parts of Southeast Asia. These items will be pooled together at the Chinese port of Lianyungang in the East China Sea.
- The "steel silk road" a reference to Beijing's trans-continental rail enterprise is one of the most visible symbols of the BRI, which has a sweeping land and maritime dimension of seamless connectivity between Asia, Europe and Africa.
- In view of the new trade and investment opportunities opening up in the BRI zone, including Central Asia, the Japanese Chamber of Commerce and Industry has set up a liaison office in China.
- Japan's mega banks, including the Bank of Tokyo-Mitsubishi UFJ and Mizuho Bank, have also looking for expanding their China operations, in view of the BRI.
- Prime Minister Abe has already flagged his interest in the BRI, provided the plan follows the
 rules of transparency and fairness. However, Tokyo has so far desisted from participating in the
 China-initiated Asian Infrastructure Investment Bank (AIIB), which is expected to support BRI
 projects, which focus on Asia.
- In tune with the commercial opportunities offered by the BRI, Japan is sending important political signals for reviving ties with Beijing. Last week, Mr. Abe paid a surprise visit at a ceremony marking China's National Day — a step that no Japanese Prime Minister has taken in the last 15 years

Hamid Karzai wants India to be cautious regarding US

Afghanistan's Former President Hamid Karzai said India should not be pulled into the U.S.'s

Page: 28



UPSC EXAM 2018 STUDY MATERIAL





approach to Afghanistan but should maintain an independent approach based on the shared interests of India and Afghanistan.

- Mr. Karzai said he had expressed his own reservations to India about the new alliance between India and the U.S. in the region. "India is a friend and an ally and a traditional civilisational friend of our country but I want India to continue its traditional wise man's approach to the region. It is too deep a civilisation to be taken away by an American design... too big a nation to be in any temporary arrangement with this or that country," he said during a meeting.
- India has ruled out deploying troops but has said that it will expand development and medical assistance in the country to which it has extended around \$3 billion in aid to date.
- Mr. Karzai reiterated his concerns about the new U.S. policy towards Afghanistan, warning that it
 would not bring peace but just further suffering to the Afghan people. "Every day Afghans told
 the U.S. of the sanctuaries outside our borders. The U.S. knew they were there but couldn't do
 much because Pakistan was an ally," he said.
- While praising India for being a "tremendous friend" of Afghanistan, he was critical of the
 influential role that U.S. approach had on India's own policy. He cited Afghanistan's request to
 the Manmohan Singh administration for help in its own military build-up. India's decision not to
 respond positively at that stage, he believes, was influenced by the U.S. being against it.
- He said the best strategy towards the Taliban was to reach peace with them. "It is too late to talk
 of defeat... defeat means causing war in Afghanistan on a higher, larger scale... military
 solutions are no more an option for us. The Taliban are Afghans and we must sit down with them
 and have peace with them."

Dhaka in favor of China's OBOR project

- Countries must not become "isolated in the name of sovereignty," said Bangladesh Foreign Secretary ShahidulHaque, striking a counter to India's tough position against China's One Belt, One Road (OBOR) Initiative during a discussion on Asian connectivity projects.
- "Economic issues now dictate how much sovereignty one should exert," Mr. Haque said at the World Economic Forum in Delhi. "We cannot be isolated in the name of sovereignty...There are times when you have to put the sovereignty issue behind, in the back seat, to the economic benefits to your people."
- 'We in South Asia are the least integrated compared to ASEAN countries," conceded Congress leader and Chairman of the Parliamentary Committee on External Affairs Shashi Tharoor, speaking during the discussion "Asia's New Normal" at the WEF conference, but warned that

Page: 29



UPSC EXAM 2018 STUDY MATERIAL





- while India could not "dictate" to its neighbours, they must see the high costs of the Belt and Road Initiative.
- "Chinese are now coming to build projects in Pakistan and in Sri Lanka they are increasingly seeing the exorbitant costs of Chinese aid. Many now call Sri Lanka's Hambantota port project, a white elephant," Mr. Tharoor added.
- Mr. Haque's comments came in defence of Bangladesh's decision to join the 60-nation connectivity project promoted by China, even as concerns grow over the "debt trap" that the massive infrastructure projects are leading smaller SAARC countries like Bangladesh, Maldives, and Sri Lanka into. In May, India had refused to attend China's Belt and Road Forum.

ICAN wins Noble Peace Prize

- Nuclear disarmament campaign group the International Campaign to Abolish Nuclear Weapons (ICAN) won the Nobel Peace Prize for its efforts to rid the world of the atomic bomb, warning that Donald Trump's presidency showed how dangerous the weapons of mass destruction truly are.
- More than 70 years since atomic bombs were used on the Japanese cities of Hiroshima and Nagasaki, the Nobel committee sought to highlight ICAN's tireless non-proliferation efforts as nuclear-related crises swirl around North Korea and Iran.
- The decision sent a strong message at a time when Mr. Trump has threatened to tear up a 2015 deal curbing Iran's nuclear abilities. And the U.S. President last month alarmed delegates at the UN General Assembly by warning he may be forced to "totally destroy" North Korea because of its atomic weapons programme.
- Some states are modernising their nuclear arsenals, and there is a real danger that more countries will try to procure nuclear weapons, as exemplified by North Korea.
- Founded in Vienna in 2007, ICAN comprises more than 400 NGOs and has mobilised supporters and celebrities alike in its cause.
- It was a key player in the adoption of a historic nuclear weapons ban treaty, signed at the UN by 122 countries in July.
- However, the accord was largely symbolic as none of the nine known world nuclear powers put their names down. It still needs to be ratified before entering into force.
- The U.S., Russia, Britain, France, China, India, Pakistan, Israel and North Korea are all thought to possess weapons of mass destruction.
- Although global atomic weapons stockpiles have plummeted from around 64,000 warheads in 1986 at the height of the Cold War to more than 9,000 in 2017 according to the Bulletin of Atomic Scientists (BAS) — the number of nuclear-armed nations has grown.

Page: 30



UPSC EXAM 2018 STUDY MATERIAL





- The agreement struck in 2015 between Iran and world powers drastically curbed Tehran's nuclear enrichment capability in return for a lifting of punishing economic sanctions. Iran denies ever pursuing a bomb, insisting its nuclear programme is for peaceful energy production only.
- Tensions have also soared between the U.S. and North Korea, which has test-fired two missiles over Japan and conducted a string of apparent underground nuclear tests this year.
- But Russia, which according to BAS has the world's largest atomic stockpile, said there was no alternative to "nuclear parity" to guarantee world peace.
- The Nobel committee has rewarded anti-nuclear weapons drives on several previous occasions, handing out the prestigious prize to Soviet dissident Andrei Sakharov in 1975, the international non-proliferation IPPNW group in 1985, and the IAEA's then head Mohamed El-Baradei 20 years later.
- More than 300 people and organisations were thought to have been nominated for this year's Peace Prize, including the UN's refugee agency UNHCR, Syria's White Helmets rescue service and Congolese doctor Denis Mukwege.
- The Peace Prize, which comes with a gold medal and a cheque for nine million Swedish kronor (\$1.1 million) will be presented in Oslo on December 10, the anniversary of the death of its founder, Swedish philanthropist and dynamite inventor Alfred Nobel.

Trump set to decertify Joint Comprehensive Plan of Action (JCPOA)

- The Iran nuclear deal between Tehran and six world powers reached in 2015 appears to be in jeopardy as President Donald Trump is unlikely to issue a certification mandated by a U.S law for the country's continuing participation in the agreement.
- Decertification by Mr. Trump will not directly result in the U.S withdrawal from the agreement, but could a trigger a series of events that may destabilise and eventually dismantle it.
- The President is expected to give a speech explaining his position and a new, tougher policy towards Iran next week.
- "We must not allow Iran to obtain nuclear weapons. The Iranian regime supports terrorism and exports violence, bloodshed, and chaos across the Middle East [West Asia]. That is why we must put an end to Iran's continued aggression and nuclear ambitions. They have not lived up to the spirit of their agreement," Mr. Trump told senior leaders of the U.S military at the White House.
- The President's view that Iran is not in compliance with the deal, also called the the Joint Comprehensive Plan of Action (JCPOA), is at odds with International Atomic Energy Agency (IAEA) and the other five signatories to the deal Russia, China, France, Germany and U.K.

Page: 31



UPSC EXAM 2018 STUDY MATERIAL





- The IAEA and these five countries maintain that Iran is in full compliance. Mr. Trump appears to be going by the advice of a segment of the Republican Party and two key American allies in region, Israel and Saudi Arabia, both bitter opponents of the deal negotiated by the Barack Obama administration. The deal has provisions to deal with an Iranian breach, but does not foresee an American non-compliance.
- Under the Iran Nuclear Agreement Review Act of 2015, the President is required to issue a
 certification to Congress every 90 days that makes a determination on four points that "Iran is
 fully implementing the JCPOA, Iran has not committed a material breach, Iran has not taken any
 action that could significantly advance a nuclear weapons programme, and suspension of
 sanctions is appropriate and proportionate to the measures taken by Iran and vital to U.S.
 national security interests."
- The next certification is due on October 15. Mr. Trump has certified the deal twice, but has indicated that he does not intend to do it a third time. The last point about the deal being vital to U.S national interests is an entirely subjective one.
- When the President refuses to certify, the onus is on the U.S Congress to decide the course of action. The Congress will get 60 days to decide whether or not to reimpose the sanctions on Iran, lifted as part of the nuclear deal. For now, supporters of decertification argue that this move could open the path for a stronger deal that could be negotiated.
- Senior officials of his administration and the European allies fear that American withdrawal from the deal could destabilise the region further. Defence Secretary James Mattis told a Congressional committee earlier that Iran was "fundamentally" in compliance with the agreement.

Page: 32



UPSC EXAM 2018
STUDY MATERIAL





SCIENCE AND TECHNOLOGY

Solar storm hits Mars

- An unexpectedly strong solar storm hit Mars, sparking a global aurora and doubling radiation levels on the red planet, NASA scientists say.
- The solar event on September 11 sparked an aurora more than 25 times brighter than any previously seen by the MAVEN orbiter, which has been studying the Martian atmosphere's interaction with the solar wind since 2014.
- It produced radiation levels on the surface more than double any previously measured by the Curiosity rover's Radiation Assessment Detector (RAD) since that mission's landing in 2012. The high readings lasted more than two days.
- NASA's distributed set of science missions is in the right place to detect activity on the Sun and examine the effects of such solar events at Mars as never possible before.
- It occurred in conjunction with solar activities during what is usually a quiet period in the Sun's 11-year sunspot and storm-activity cycle.
- This event was big enough to be detected at Earth too, even though Earth was on the opposite side of the Sun from Mars.
- RAD monitored radiation levels inside the encapsulated spacecraft that carried Curiosity from Earth to Mars in 2011 and 2012 and has been steadily monitoring the radiation environment at Mars' surface for more than five years.
- RAD findings strengthen understanding of radiation's impact on Mars habitability, a key objective
 of the Curiosity mission.

A plant based ink likely to kill cancer cells

- A plant-based ink, that has been used by Chinese calligraphers for hundreds of years, could non-invasively kill cancer cells, scientists claim.
- As cancer cells leave a tumour, they frequently make their way to lymph nodes, which are part of the immune system.
- In this case, the main treatment option is surgery, but this can result in complications.
- Photothermal therapy (PTT) is an emerging non-invasive treatment option in which nanomaterials are injected and accumulate in cancer cells. A laser heats up the nanomaterials, and this heat kills the cells.
- Many of these nanomaterials are expensive, difficult-to-make and toxic.

Page: 33



UPSC EXAM 2018 STUDY MATERIAL





- However, a traditional Chinese ink called Hu-Kaiwen (Hu-ink) has similar properties to the nanomaterials used in PTT.
- For example, they are the same colour, and are both carbon-based and stable in water.
- The researchers also noted that Hu-ink could act as a probe to locate tumours and metastases because it absorbs near-infrared light, which goes through skin.

Second Submarine- Khanderi begins sea trials

- Slowly but steadily, the Scorpene submarine programme is making progress. While the first submarine awaits commissioning, the second one has just begun sea trials, and Mazagon Docks Ltd. (MDL) is gearing up to launch the third vessel.
- After the monsoon, the second Scorpene Khanderi began sea trials last week. As per schedule, it is expected to be commissioned within this year.
- The third submarine, Karanj, is on track to be launched by the year-end.
- Khanderi, named after an island fort of Maratha ruler ChhatrapatiShivaji, was launched in January and had undergone some testing. Trials were held up by the rough sea.

Noble prize in physics awarded for discovery of gravitational waves

- U.S. astrophysicists Rainer Weiss, Barry Barish and Kip Thorne and were awarded the Nobel Physics Prize for the discovery of gravitational waves — a phenomenon that opens a door on the extreme Universe.
- Predicted by Albert Einstein a century ago as part of his theory of general relativity, but only
 detected in 2015, gravitational waves are "ripples" in space-time, as the theoretical fabric of
 the cosmos is called.
- They are caused by ultra-violent processes, such as colliding black holes or the collapse of stellar cores.
- "Their discovery shook the world," said Goran K. Hansson, the head of the Swedish Royal Academy of Sciences, which selects the Nobel recipients.
- They made their discovery in September 2015 and announced it in February 2016, a historic
 achievement that culminated from decades of scientific research. And since then, they have
 clinched all the major astrophysics prizes to be had.
- Mr. Thorne and Mr. Weiss co-created the Laser Interferometer Gravitational-wave Observatory (LIGO) at the prestigious California Institute of Technology, which has taken home 18 Nobels since the prizes were first awarded in 1901. Mr. Barish then brought the

Page: 34



UPSC EXAM 2018
STUDY MATERIAL





project to completion.

- The first-ever direct observation of gravitational waves was the result of an event some 1.3 billion light years away. "Although the signal was weak when it reached Earth, it is already promising a revolution in astrophysics. Gravitational waves are an entirely new way of following the most violent events in space and testing the limits of our knowledge," the Academy said.
- Since 2015, the enigmatic ripples have been detected three more times: twice more by LIGO and once by the Virgo detector located at the European Gravitational Observatory in Cascina, Italy.

3-fold rise in extreme rainfall events in Central India

- There has been an average 10% decline in summer monsoon (June to September) rainfall over central India between 1950 and 2015 as a result of weakening of the summer monsoon winds.
- However, the frequency and intensity of extreme rainfall (more than 150 mm per day for two-three days covering an area of 250 by 250 km) events during the same period over central India (from Gujarat in the west to Odisha and Assam in the east) has been on the rise.
- There has been a three-fold increase in widespread extreme events over central India during 1950-2015. In the 1950s, there were two extreme rainfall events per year, while in recent years the number of events has increased to six per year.
- Models suggest further increase in extreme events over most parts of the Indian subcontinent by the end of the century.
- The weakening of the monsoon winds has resulted in less supply of moisture to the Indian subcontinent. The warm ocean temperatures in the northern Arabian Sea result in large fluctuations in the monsoon winds leading to occasional surges of increased moisture transport.
- These sudden surges of the monsoon winds bring in plenty of moisture and that is what is causing extreme rainfall events across the central Indian belt.
- While the central Indian Ocean has warmed up, the Indian peninsular region has not warmed up compared to other regions in the tropics leading to reduced land-sea

Page: 35



UPSC EXAM 2018 STUDY MATERIAL





temperature difference.

- Probably the cooling caused by aerosol and the reduced land-sea temperature difference in recent years is what is causing the weakening of the monsoon winds and decline in monsoon rainfall.
- At the same time, the northern Arabian Sea is becoming increasingly warm leading to more moist air over the Arabian Sea. In addition, the northern Arabian Sea gets warmer (1-2 degrees C) 2-3 weeks prior to extreme events.
- As a result, there is 20-40% more evaporation and increased moisture levels over the Arabian Sea before an extreme event. This gets transported over central India resulting in extreme rainfall events. The results were published in the journalNatureCommunications.
- The Arabian Sea supplies more moisture to the extreme rainfall events than the Bay of Bengal and the central Indian Ocean combined.
- The study found that the Arabian Sea contributes 36% of the total moisture to central India, while the Bay of Bengal's is 26% and the Indian Ocean's is 9%.
- Interestingly, land evotranspiration contributes 29% moisture, which is much more than even the Bay of Bengal. Moisture from land evotranspiration is often neglected in monsoon studies

Supermassive black holes discovered

- Scientists, including one of Indian origin, have identified five pairs of supermassive black holes, each millions of times the mass of the Sun, that could help better understand the phenomenon of gravitational waves.
- These black hole couples formed, when two galaxies collided and merged with each other, forcing their supermassive black holes close together.
- The black hole pairs were uncovered by combining data from a suite of different observatories, including NASA's Chandra X-ray Observatory, the Wide-Field Infrared Sky Explorer Survey (WISE), and the ground-based Large Binocular Telescope in Arizona, researchers said.
- Researchers used optical data from the Sloan Digital Sky Survey, to identify galaxies where it
 appeared that a merger between two smaller galaxies was underway.
- Seven merging systems, containing at least one supermassive black hole were found with this technique.

Page: 36



UPSC EXAM 2018
STUDY MATERIAL





- Closely-separated pairs of X-ray sources were found in five systems, providing compelling evidence that they contain two growing (or feeding) supermassive black holes.
- The research has implications for the burgeoning field of gravitational wave astrophysics. However, the merging black holes discovered have been of the smaller variety.
- The merging black holes in the centres of galaxies are much larger. When these supermassive black holes draw closer, they should start producing gravitational waves.

Human brains may drain out waste

- By scanning the brains of healthy volunteers, researchers have found long-sought evidence that our brains may drain out some waste through lymphatic vessels, the body's sewer system.
- Now, a research team has discovered lymphatic vessels in the dura, the leathery outer coating
 of the brain. The results, published online in the journal eLife, further suggest that the vessels
 could act as a pipeline between the brain and the immune system.
- Lymphatic vessels are part of the body's circulatory system. In most of the body they run alongside blood vessels. They transport lymph, a colourless fluid containing immune cells and waste, to the lymph nodes.
- Blood vessels deliver white blood cells to an organ and the lymphatic system removes the cells and recirculates them through the body. The process helps the immune system detect whether an organ is under attack from bacteria or viruses or has been injured.
- Brain scans and autopsy studies of brains from non-human primates confirmed the results seen
 in humans, suggesting the lymphatic system is a common feature of mammalian brains. "These
 results could change the way we think about how the brain and immune system interrelate," said
 Walter Koroshetz, Director, NINDS.
- Researchers are planning to investigate whether the lymphatic system works differently in patients who have multiple sclerosis or other neuroinflammatory disorders.

Six decades since Sputnik

- Six decades after Sputnik, a refined version of the rocket that put the first artificial satellite in
 orbit remains the mainstay of Russia's space programme as a stunning tribute to the country's
 technological prowess, but also a sign that it has failed to build upon its achievements.
- And unlike the Cold War era when space was a key area of the rivalry between the United

Page: 37



UPSC EXAM 2018
STUDY MATERIAL





States and the Soviet Union, space research now appears to rank low on the Kremlin's priorities.

- The Soyuz booster, currently the only vehicle that launches crews to the International Space Station, is a modification of the R-7 rocket that put Sputnik in orbit on Oct. 4 1957. Another Soviet-designed workhorse, the heavy-lift Proton rocket that has been used to launch commercial satellites to high orbits, was developed in the 1960s.
- Glitches found in Proton and Soyuz in 2016 were traced to manufacturing flaws at the plant in Voronezh that builds engines for both rockets.
- Work on a new spacecraft intended to replace the Soyuz capsule designed 50 years ago has crawled slowly.
- Attempts to send unmanned probes to Mars in 1996 and one of the Martian moons, Phobos, in 2011 failed due to equipment problems. It has struggled for years to build its own scientific module for the International Space Station.
- Amid funding shortages, Roscosmos has also decided to cut the size of its ISS crews.

Convergence and divergence of water vapour govern Indian monsoon rainfall

- In2014, India recorded a 12% seasonal rain deficit with a record drought in the month of June.
- Scientists from the Department of Meteorology and Oceanography atAndhra University studied the climate data and found that divergence of water vapour was one of the main reasons for the drought.
- The analysis of the moisture transport patterns revealed that convergence and divergence of water vapour are important factors governing the Indian summer monsoon rainfall. The results were recently published in Climate Dynamics.
- Data from June 1 to September 30 for the period 2000-2014 were collected from the Climate Forecasting System model at the Pune's IITM and National Centre for Environmental Prediction (NCEP) final analysis from the U.S.
- The data showed that all parts of the country had received scanty monthly rainfall at least once during the four months in 2014. The overall seasonal rainfall over India was 775.5 mm which is a 12% less than the normal.
- The researchers examined the water vapour transport as earlier studies by others had shown it could affect rainfall.
- The divergence of moisture flux could have caused the low rainfall in June which was only 57.5 % of the average. In August 2014, there was a break in monsoon with rainfall only over northeastern and central parts of India.
- The regions with rainfall showed convergence of moisture and in the areas with no rainfall there was divergence. In September, the rainfall over many parts of India showed significant increase

Page: 38



UPSC EXAM 2018 STUDY MATERIAL





- and also excess in some parts.
- The overall rainfall was 108.1% of the average. These values support the contention that over the land, moisture flux has a major influence on rainfall.
- The other physical processes that cause drought were analysed. The El Nino effect on 2014 monsoon rainfall was very small as the air-sea coupling weakened the effect, resulting in ENSO neutral conditions.
- Thus the results of this study suggest that the process of water vapour transport is an important physical process influencing the monsoons. The magnitude of convergence agreed with the rainfall in quantity and divergence caused drought.
- The study emphasises that moisture flux should be taken into consideration for accurate prediction of future climate.

Page: 39



UPSC EXAM 2018
STUDY MATERIAL



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ENVIRONMENT AND ECOLOGY

Snow leopard captured in camera

- Scientists have obtained the first evidence of the elusive snow leopard in Arunachal Pradesh.
- Camera traps have captured images of the big cat at Thembang village's Community Conserved Area, a community-owned reserve, in West Kameng district.
- The presence of the species outside a protected areas highlights the importance of community support for conservation as well as landscape-scale planning, says World Wildlife Fund for Nature (WWF-India), which conducted the camera trap study.
- The camera-trapping, part of a State-wide survey initiated in March 2017 by WWF-India in collaboration with the Arunachal Pradesh Environment and Forest Department, focused on unexplored snow leopard habitats.
- With only a small fraction of snow leopard habitats falling in the two protected areas (the Dibang Biosphere Reserve and Namdapha National Park) in the State, scientists tapped into the knowledge of locals — including herders and former hunters — to understand the current distribution of snow leopards and other mammals. Over 80% of the respondents confirmed the presence of snow leopards in their area.
- The research team deployed camera traps in select areas to document the species and obtained the photograph of a snow leopard in the Community Conserved Area (CCA).
- In 2004, WWF-India introduced the concept of CCAs in the State to empower local communities to become active decision-makers and implement conservation initiatives.
- Local communities in these CCAs form committees to undertake wildlife monitoring, patrolling and community-based tourism activities.
- Arunachal Pradesh is one of the 22 priority landscapes of the Global Snow Leopard Ecosystem
 Protection Program and while locals and researchers knew that there were snow leopards in the
 area, scientists had not been able to get photographs thus far.

Real time monitoring of drought to help policy makers

 Near real-time monitoring of drought at a 5-km scale that will help policy makers in water management at a district level is now possible, thanks to tools developed and made available online by researchers at the Indian Institute of Technology (IIT) Gandhinagar.

Page: 40



UPSC EXAM 2018 STUDY MATERIAL





- The researchers offer precipitation and temperature datasets and drought indicators available from 1980 to April 2017 covering the entire South Asian region. The data will be updated weekly. Besides drought, the datasets can also be used for monitoring heat and cold waves in South Asia.
- IMD [Indian Meteorology Department] provides daily rainfall data mainly during the monsoon season. There's no real-time information at high-resolution about drought after the monsoon season.
- Also, IMD's drought information is based only on rainfall data and does not incorporate the role
 of air temperature. But higher temperature after the monsoon season can cause drought-like
 situation due to increased evaporation and transpiration losses.
- The team wanted to provide information in near real-time on whether a region of interest is under drought and what part of a district or sub-basin is under drought.
- The emphasis was to develop a dataset at a finer resolution (5 km) as the data provided by IMD and other agencies is coarse (resolution of 25 km). The researchers used CHIRPS global rainfall data which are available at 5 km resolution and corrected the data for bias and errors.
- CHIRPS stands for Climate Hazards Group InfraRed Precipitation with Station. "The corrected data compares well with the IMD data once we aggregate our data to the IMD scale," says Prof. Mishra.
- The precipitation dataset at a finer resolution of 5 km over the entire South Asian region was evaluated against a standard rainfall database (APHRODITE) that is available for South Asia and satellite-based information. Earlier studies have shown that the Aphrodite database matches the IMD rainfall data quite well. The results were published in the journal Scientific Data.
- The drought indices standardised precipitation index and standardised precipitation evapotranspiration index were estimated using the bias-corrected, high-resolution data and evaluated against satellite-based drought products.
- The researchers used the drought indices to assess severity and extent of drought in 2015 for a
 four-month period from June to September. "The developed dataset and drought indicators
 performed well over the South Asian region. Apart from IMD, this is an additional effort to
 provide more real-time information on drought that can be used for decision-making," says Prof.
 Mishra.

Page: 41



UPSC EXAM 2018
STUDY MATERIAL





CULTURE

Where Kathak, qawwali and opera met

- Kathak and tap dancers, the sarod and the organ came together in a gala in central London as the Southbank centre hosted over 150 artists from across Britain and India for an event pegged as the highlight of the 2017 India-U.K. Year of Culture
- . Among the performers were the British opera singer Patricia Rozario, sarodplayerSoumikDatta, and Radiohead guitarist Jonny Greenwood.
- The push for a year-long celebration of Indian and British culture was agreed upon during Prime Minister Narenda Modi's visit to Britain in 2015.
- Since its launch earlier this year, events have been taking place across the country, with many
 museums and institutions using the opportunity to create India-related events from Kew
 Gardens' annual orchid festival focussed around the Indian orchid to the Science Museum's
 exhibition examining the place of India in the development of science and technology over the
 past 5,000 years.
- It also included a performance by an artist in a wheelchair, part of Step Change Studios, which aims to be an accessible dance platform.
- The evening concluded with a performance of Junun, an album of Sufi qawwals in Urdu and Hebrew, a collaboration between Radiohead guitarist Jonny Greenwood, Israeli composer Shye Ben Tzur and Indian musical group Rajasthan Express.

Page: 42



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BUSINESS AND ECONOMY

Cost is a major problem in Electric vehicle

- Add BHP Billiton and vacuum-cleaner maker Dyson to the list of converts to the electric-vehicle revolution. ArnoudBalhuizen, chief commercial officer at the world's largest miner, told Reuters that battery-powered cars will reach a tipping point this year.
- With Tesla, Volvo, General Motors, Volkswagen and others all launching or announcing new electric vehicles, it may sound like the internal combustion engine is heading straight for the scrap yard.
- There's certainly willingness to switch to electric vehicles. Deutsche Post, Unilever and IKEA
 were among 10 large enterprises that committed recently to ditch gas guzzlers for batterypowered ones but only by 2030.
- Even BHP's Mr. Balhuizen reckons it'll take until 2035 to have 140 million electric autos on the roads compared to at most 2 million today. And they'd account for less than a tenth of the global fleet.
- Cost is a major problem. Cars powered solely by batteries are up to \$20,000 more expensive than gas-propelled ones, according to Evercore ISI. A driver of the GM Bolt could save \$300 a vear on fuel.
- That means it'd take at least 30 years to cover the extra outlay, estimate the bank's analysts —
 almost three times longer than the average American car stays in service.
- Over time, those costs will come down, though increased demand is already pushing up the price of key raw materials like lithium and copper. The rise of autonomous driving may change the economics.
- Trouble is, that remains years off. And there are other challenges. Access to some metals is far from secure: around half of the current supply and estimated reserves of cobalt are in the DRC, a country plagued by conflict, drought and child labour.
- Add up the various prognostications and electric-only-powered cars, with most driving themselves, will almost certainly become the norm by mid-century. That's still plenty of time for the internal combustion engine to ride off into the sunset.

India's demand for coal is on rise

- Demand for coal is expected to climb despite ramping up of renewable energy capacity
- With India embarking on an ambitious journey to achieve renewable energy capacity of 175 gigawatt (GW) by 2022, questions have been raised on the relevance of coal in the present context. Does coal, the principal source of energy for now, face a dark future?

Page: 43



UPSC EXAM 2018 STUDY MATERIAL





- According to analysts, renewable energy sources and coal will coexist, as the availability of coal
 is abundant in India and it can provide affordable power to propel India's growth and light every
 household.
- Despite the rapid growth in renewable energy, legacy coal plants will continue to generate thermal energy. However, most additional capacity in the country will come from renewable sources.
- If coal had a bleak future in India, then the coal block auctions could not have happened or succeeded. This is evident from the fact that captive power plants purchased 80% of the coal offered on a five-year contract at an auction at an average premium of 25% over the notified price.
- With reliable supply of energy becoming critical to provide round-the-clock electricity across the
 country and to achieve 100% electrification by December 2018, super thermal power plants and
 other modern thermal plants are being nudged by the Centre to produce more energy from the
 same capacity.
- The NITI Aayog, which had sought suggestions from experts for meeting the electricity demand under the current circumstances, was advised to allow thermal plants to enhance output without adding any capacity.
- Though the latest prices of solar and wind energy do throw a question mark on whether further thermal power capacity would come up, analysts said coal would continue to dominate in the absence of cost-effective storage of renewable energy that has been generated.
- Today, the plant load factor (PLF) for India's thermal power capacity has dropped to 52% from 79% in 2007-8 but the country's thermal plants are equipped to operate at about 85 to 90% PLF. Assuming the PLF is scaled up from 55% to 85%, one can see a 50% increase in output from the same capacity. The only cost involved here is the variable cost of coal.
- This variable cost is far lower than that for solar power. It is expected to be about Rs. 1.50 per unit and the price difference is expected to be in the range of Rs. 0.70 to Rs. 1 per unit with solar or wind energy, according to industry players.
- It makes eminent sense for the country to increase the output from existing plants. The
 additional generation will be close to 500 billion units. With an average cost saving of Rs. 0.80 is
 Rs. 40,000 crore. This benefit will go to discoms and consumers if the country adopts this kind of
 a strategy.
- To produce 500 billion units, 350 million tonnes of coal would be required this is the additional demand. Even at a requirement of 300 million tonnes of coal, coal demand will increase by 7% a vear from now.
- India uses about 800 million tonnes of coal. The current coal production in the country is 650 million tonnes, while the balance is imported. The additional demand for coal to fire up

Page: 44



UPSC EXAM 2018 STUDY MATERIAL





- power plants would contribute a substantial Rs. 12,000 crore annually to the Clean Environment Fund at the rate of Rs. 400 per tonne.
- India's share in pollution is far less than its share of the global population. Developed countries did want to club India with China and said that what applied to China, applied to India too. Fortunately, India has not succumbed to that.
- Using more coal to meet the energy demand from the same thermal capacity for the next 20 years will not put India at disadvantage given its commitment to meet the Climate Change COP 21 obligations.
- As per the obligations, India's renewable capacity should be 40% of the total capacity by 2030.
 Including hydro-based power, that capacity is currently at 28%. Once India implements the 175
 GW renewable programme, the 40% criteria will be achieved.
- Besides, India is well within the COP 21 obligation till it uses 1,500 million tonnes of coal a year as compared with 800 million tonnes now to generate energy.
- Analysts also said India could continue with a coal-based growth plan, which is cost effective.
 This is what China has done to place its economy on a solid footing, said an analyst with a foreign brokerage firm.
- The Chinese share in global emissions is now close to 30%, whereas its share in global population is just about 17%. India' share in global population is 16%, while its share in emissions is only 6%-7%, said an analyst, highlighting the contrast.
- Even though the NITI Aayog energy policy mentions 330 GW of thermal capacity as target by 2040, it is unlikely to be achieved because of the sharp correction in solar power prices, said an analyst.
- The International Energy Agency (IEA) in a recent report titled India Energy Outlook has said, "The rapid change anticipated for the Indian energy system in the New Policies Scenario does not translate into a dramatic shift in the energy mix. Coal retains a central position in the mix, increasing its overall share in primary energy from 44% in 2013 to 49% in 2040."
- It said coal-fired power contributes substantially more to output than to overall costs, helping to keep electricity tariffs affordable for consumers in a period when India is adding more costly sources of power.
- In India, coal has always been thought of as the raw material for power. Because the demand from the power sector was much more than the availability of coal in the last 10 years, no serious thought has gone into any other use for coal.
- Once the power sector begins to use increasing amounts of power from solar and other renewable sources, then coal can be put to use elsewhere: eg, coal can be deployed in the manufacture of ammonia and for conversion of ammonia to fertilizer.

Page: 45



UPSC EXAM 2018 STUDY MATERIAL





- With the government's plans to usher in a second green revolution, the demand for domestically-made fertilizer will be high. Thoughts are being channelised now to come up with methods to produce chemicals such as methanol and others of its ilk from coal.
- India's total coal reserve is estimated at a little more than 300 billion tonnes. If 50% of that is extractable, a 1-billion-tonne annual consumption will translate into availability for 150 years.

Total Return Index

- Currently, a majority of fund houses benchmark their equity mutual fund schemes against simple
 price indices which capture only the change in price of the stocks that are components of the
 said index.
- An index comprises a basket of securities taken at the prevalent market price. For instance, two
 of India's popular indices Sensex and Nifty comprise shares of 30 companies and 50 companies
 respectively and the returns are measured based on price movements of the index components.
 So, an equity mutual fund's performance was measured against the performance of their
 respective benchmarks.
- A Total Return Index takes into account not just the Price Returns of the stocks but also dividends paid out on the stocks.
- Total Returns Indices are commonly used as the primary benchmarks for comparing fund performance, but in India this trend is only now taking off.
- Historically, Indian indices have always been tracked for the Price Return, but now you can find historical Total Returns data for most indices, although they are not widely tracked yet, the firm said.
- Total returns included interest, capital gains, dividends and distributions realised over a given period of time.
- The TRI will help in giving the right picture of the real alpha (a metric which measures what the fund has earned over and above or below what was expected.
- The alpha that is shown currently may look overstated as dividends are not added in benchmark returns calculation and the move towards TRI is a step towards "responsible and transparent communication with our advisors and investors and also sets high standards in investment management," BlackRock said.
- The number of equity mutual funds beating the benchmark dropped to 58% from 85% after making a comparison on TRI rather than on Price Return Index basis.
- From an investor stand point, TRI would give the actual picture of what exactly he or she earns from a mutual fund investment. From the standpoint of fund managers, it will make them work a little harder to make the right stock pick.

Page: 46



UPSC EXAM 2018 STUDY MATERIAL





 One has to wait and see how the TRI changes the working style of fund managers and their performance in India.

To reduce power costs competition is required

- India is the world's third-largest producer and fourth-largest consumer of electricity. In the last couple of years, the power sector witnessed record capacity addition taking the installed generation capacity to more than 330 GW.
- Considering its role in developing the economy and in achieving universal electrification, the Central and State Governments have always given special tax treatment to the power sector in the past. But post GST, that trend may not continue.
- The GST Act has kept electricity out of its ambit while keeping the capital goods and services consumed by the sector under its coverage. Power generating companies will hence not be able to claim input tax credit — that is, they cannot pass on the tax they paid for inputs to the consumers.
- There is also no benefit of input tax credit in respect of state VAT on inputs used in the process of power generation and distribution. So, the cost of power will come embedded with taxes on power generation equipment and other inputs.
- A marginal rise in the power tariff is therefore inevitable at least in the short to medium term.
- Though the Engineering, Procurement and Construction (EPC) contracts could see a reasonable decrease as works contract gets subsumed into service tax, they cannot avail input tax credit on contracts for the same reason that electricity is outside the GST regime.
- As for the renewable sector, there will be an increase in cost of generation to the extent of 5-10%, due to the increased tax incidence on many of the components that go into the manufacturing of solar PV systems and wind generation systems.
- According to an estimate by the Ministry of New and Renewable energy, the cost of setting up solar off-grid projects will rise by 16-20%, after GST. There will be an about 16% increase in solar PV grid installations and a 11-15% jump in the cost of setting up of wind energy projects. As far as biomass and hydro projects are concerned, the increase in project cost will be about 11-14% and 11% respectively.
- But the GST does come with its own benefits. Domestic coal, for instance, has been brought
 under the 5% tax slab in the past, the tax slab for coal varied from 11% to 12%. This comes
 as a much needed breather for a majority of private sector thermal power generators who are
 struggling with low returns. It is estimated that the variable cost of generation for coal-based
 power companies will be decline by 5-6 paise a unit, or about 1% of the current open market
 tariff.

Page: 47



UPSC EXAM 2018 STUDY MATERIAL





- The impact of GST will be positive for the electrical and the lighting sectors that will enjoy reduction in indirect taxes from about 30% to 18%. India has announced a major initiative to achieve an all Electric Vehicle Regime by 2030. Towards this, the GST at 12% for Electric Vehicles compared with 28% for diesel /petrol vehicles and hybrids is a major step.
- The fallout of the programme will give a major boost for the demand pick-up. With more and more charging stations coming up, electricity demand should go up by a few hundred gigawatts by 2030. This indeed is a welcome move.
- While the government needs to rationalise the tax structure and pave the way for the seamless flow of input tax credit, eventually market competitiveness of power generators — public or private, conventional or renewable — could absorb the increase, relieving consumers of the burden.

Many more problems before Electric vehicles

- India's transition to EVs could have far-reaching implications for the global oil economy. "India,
 the world's third-largest consumer and fastest-growing major market, could see a cut of 8%-20%
 of current annual oil demand," the report said.
- Affordability challenge could be addressed with an India-specific EV, it felt.
- The government has set an ambitious EV sales ratio target of 40% in 2032 with almost 100% in commercial applications (compares with China's EV target of 20% by 2025).
- "We believe this target will be difficult to achieve; our base case (moderate adoption) forecasts an EV sales ratio of 13% for cars in 2032, 25% for 2-wheelers and 55% for buses," the report said.
- Nevertheless, according to Goldman Sachs, the late mover advantage may help India in its endeavour. "This should enable it to benefit from lessons learnt in other countries," it added.
- According to Ashok Jhunjhunwala, Principal Advisor, Ministry of Power & New and Renewable Energy, Government of India, the key challenge for development of electric vehicles would yet be the issue of subsidy.
- There was an urgent need for a strong policy framework to promote Indian manufacturing and support from the Government to nudge Indian stakeholders move towards EV gradually, it said.
- The fact of the matter, however, is that green has become a hot subject of debate and 'EV' has become the new buzz word a fancy one, at that, in the world of Indian automobiles.

The first ever shipment of U.S. crude oil Reached India

- The first ever shipment of U.S. crude oil of 1.6 million barrels, purchased by state-run Indian Oil Corporation (IOC), was received at Paradip Port.
- The shipment is a part of recent commitments to purchase U.S. oil by IOC, Bharat Petroleum (BPCL) and Hindustan Petroleum (HPCL).

Page: 48



UPSC EXAM 2018
STUDY MATERIAL





- IOC has placed a cumulative order for 3.9 million barrels from the U.S. while BPCL and Hindustan Petroleum have placed orders for about 2.95 million barrels and one million barrels, respectively.
- "The inclusion of the U.S. as a source for crude oil imports by India's largest refiner will go a long way in mitigating the risks arising out of geo-political disruptions.
- U.S. crude oil shipments to India have the potential to boost bilateral trade by up to \$2 billion, according to a. U.S. Embassy release.
- The crude oil shipment was delivered by MT New Prosperity, a Very Large Crude Carrier (VLCC) of capacity 2 million barrels of crude, which left the U.S. Gulf Coast on August 19.
- The United States and India are elevating our cooperation in the field of energy, including plans for cleaner fossil fuels, renewables, nuclear and cutting edge storage and energy efficiency technologies.

Morgan Stanley predicts India to be world's fastest growing large Economy

- India is likely to be the world's fastest-growing large economy in the next 10 years, driven by digitisation, favourable demographics, globalisation and reforms, predicts a Morgan Stanley report.
- According to the global financial services major, the trend line in India's annual GDP growth has been accelerating to 6.9% in 2000s, from 5.8% in the 1990s, and this momentum is likely to continue in the next decade as well.
- Morgan Stanley expects digitisation will provide a boost of 50-75 bps to GDP growth and forecast that India will grow to a \$6-trillion economy by 2026-27.

China's value-chain and relocations to help growth in emerging markets

- China's move up the value chain and the relocation of low-end manufacturing to lower-cost countries will continue to create opportunities and support strong economic growth in some of Asia's "frontier" emerging markets including India, according to Fitch Ratings.
- The countries best-placed to take advantage over the next few decades will be those
 offering workable business environments and relative macroeconomic and political stability
 to complement low wages, strong demographics and geographical advantages, it said in a
 report released.
- The average Chinese manufacturing wage is now higher than in Asia's other major emerging economies, including India, it said. Finding cheap labour in China is only likely to become harder, with urbanisation rates already high and the working-age population set to shrink by 0.4% a year on average over 2015-2035.

Page: 49



UPSC EXAM 2018 STUDY MATERIAL





- A significant drop in China's low-end manufacturing over the coming decades would leave a large gap for lower-cost countries to exploit. China's global share of exports of clothing, footwear and furniture is still almost 40%, up from 34% in 2010, and only peaked in 2014, according to UN Comtrade.
- The decline now appears to be gathering momentum China's exports of these labour-intensive goods fell by 10% in U.S. dollar terms in 2016, Fitch said. Bangladesh and Vietnam already have strong footholds in these sectors together they accounted for 8% of global clothing, footwear and furniture exports in 2015, up from 3% in 2010, it added.

WEF's India Economic summit

- World Economic Forum's 33rd India Economic Summit will kick off, in partnership with industry body CII. The theme of the conference, which will be attended by key ministers of the government, including Finance Minister ArunJaitley and industrialists such as Sunil Bharti Mittal, is 'Creating Indian Narratives on Global Challenges'.
- "More than 650 leaders from 35 countries are taking part, allowing Indian business, society and government leaders to interact and collaborate with peers from across the globe," WEF said in a statement.
- The summit would discuss issues such as climate change, infrastructure and gender parity, besides demonetisation and the GST.

RBI keeps interest rates unchanged

- In a post-policy interaction with the media, RBI Governor Urjit Patel cautioned that any moves by the government to impart a fiscal stimulus to the economy could have unintended consequences for macro economic stability.
- "Given the general government fiscal deficit, in other words, of the States and central
 government's accounts combined, even that is in the region of 6% of GDP, our national fiscal
 stance can hardly be described as tight," Dr. Patel said. "We have to be very cautious about
 these fiscal actions," he said.
- The RBI's monetary policy report, notes that while the combined fiscal deficit of the Centre and States is budgeted at 5.9% for 2017-18, empirical estimates suggest that an increase in the fiscal deficit to GDP ratio by 100 basis points could lead to a permanent increase of about 50 bps in inflation. The decision means lenders are unlikely, for now, to cut their rates on home and auto loans for consumers.
- While five of the six members of the MPC voted for holding rates, one member, Ravindra Dholakia, voted for a 25 bps cut.

Page: 50



UPSC EXAM 2018
STUDY MATERIAL





 The RBI noted that the goods and services tax implementation seemed to have had an adverse impact as it made prospects of the manufacturing sector uncertain which may further delay investment revival.

RBI angry over banks keeping rates high

- The Reserve Bank flayed lenders for keeping interest rates high and flagged concerns over the base rate and the marginal cost of fund-based lending rate (MCLR), saying these have not improved monetary transmission.
- An internal RBI group also suggested switching over to an external benchmark in a time-bound manner so that better rates are available to borrowers.
- "The RBI study group has observed that internal benchmarks such as the base rate/MCLR have not delivered effective transmission of the monetary policy," RBI said in a report today.
- The group was constituted by RBI to study various aspects of the MCLR system from the perspective of improving policy transmission.
- RBI introduced MCLR on April 1, 2016 after finding that the then prevailing base rate had failed to achieve the objectives of easier and faster policy transmission.
- Before the MCLR was rolled out, the banks were following a more rigid base rate system, which came into force on July 1, 2010, replacing the banks' prime lending rate.
- The base rate/MCLR regime is also not in sync with global practices on pricing of bank loans, it said, adding that "the study group has, therefore, recommended a switchover to an external benchmark in a time-bound manner."
- Addressing the media, RBI Deputy Governor Viral Acharya said the report had proposed three possible external benchmarks to which such lending could be tied to going forward.
- The report also suggested that "the interest rate resets, which are right now at an annual frequency, creating potentially a one-year lag in transmission, can be changed on all floating rate loans to quarterly resets so that transmission would be much faster once the monetary policy changes."
- RBI will take a final view on the recommendations of the study group after taking into account the feedback [from the public] received until October 25, 2017.

It is States responsibility to reduce VAT- Finance Minister

 After the Centre eased the impact of taxes on fuel prices by slashing excise duty by Rs. 2 per litre, Petroleum Minister Dharmendra Pradhan said that Finance Minister ArunJaitley would soon write to all the States.

Page: 51



UPSC EXAM 2018 STUDY MATERIAL





- Mr. Jaitley would urge them to reduce their VAT rates on petrol and diesel by five percentage
 points each in order to further ease the consumers' plight in the face of rising fuel prices, he
 said.
- It is the responsibility of states to reduce the VAT on petrol and diesel by five percentage points, then consumers will get even more relief.
- "The States are the biggest beneficiaries of the tax on fuel," Mr.Pradhan added. "They receive the VAT on petrol and diesel, and also due to the recommendations of the Fourteenth Finance Commission, they get 42% of the central excise collections from the fuels as well."
- The VAT on petrol and diesel varies sharply across States, with Maharashtra leading the pack
 — it levies a VAT on petrol of 47.94% in Mumbai, Thane, and Navi Mumbai, and 46.81% for the
 rest of the State.
- The lowest VAT rates on petrol are in Goa (17%) and in Andaman and Nicobar (6%) among the Union Territories.
- Both Mr. Pradhan and Mr. Jaitley had reiterated several times of late that the government was not considering a cut in the excise duties in the face of rising fuel prices, with the latter daring Opposition-ruled States to also slash State-level taxes on petro products and forego their share of the exchequer's revenue from excise levies.
- Mr. Jaitley also pointed out that States such as Delhi, Haryana, Punjab, Himachal Pradesh were quick to increase their VAT rates on petrol and diesel every time prices fell.

WEF witnessed discussions on worrying job market

- In an unusual role reversal, the opening session of the World Economic Forum's (WEF) India Economic Summit was witness to industry representatives worrying about the job market amid layoffs by top firms while a Cabinet Minister termed the spate of 'job reductions' as a good omen for India's youth as they strive to be job creators instead of job seekers.
- Flagging the rising inequality in society, Bharti Airtel chairman Sunil Mittal expressed concern about the 'significant reduction' in employment over the past few years by India's top 200 companies.
- Mr. Goyal asserted that the Railways alone could create 'not less than a million jobs' in less than 12 months. These, he clarified, wouldn't involve direct employment, but engagement in a variety of different areas in the ecosystem around the Railways.
- Mastercard U.S. president and CEO Ajay Banga also termed 'jobs' as the single key challenge on which he would like to see progress in India. "I think that's where the focus has to be," said Mr. Banga, who voiced alarm that women in some villages were not permitted to see a mobile phone and urged India to do away with khap panchayats which issue such diktats.
- Mr. Mittal made his comments in the context of the need for businesses to be a 'force for good'

Page: 52



UPSC EXAM 2018 STUDY MATERIAL





- and pointed out that small and medium enterprises were struggling to get credit from banks.
- "The last decade has not been good for the business community the disparities among the rich and poor has only widened," he said. "The distribution of wealth has not reached all levels of society. All that is causing a lot of stress to the political system."

SEBI proposes norms to curb fund diversion

- Audit committees should monitor the flow of funds to unlisted subsidiaries, including those
 established overseas, while listed entities should put in place proper regulatory framework while
 sharing unpublished price-sensitive information with promoters or any other significant
 shareholders, the Securities and Exchange Board of India's panel on governance has proposed.
- Listed companies should also be required to have at least six directors on the board with a minimum of 50% representation of independent directors including one woman director.
- Further, enhanced disclosure requirements related to abrupt resignation of independent directors and auditors should be put in place, according to recommendations by the Uday Kotakheaded committee on corporate governance set up by SEBI.
- The audit committee should also review the utilisation of funds of the listed entity infused into unlisted subsidiaries, including foreign subsidiaries," the panel said, adding that the requirement be applicable in instances where the "total amount of loans/advances/investment from the holding company to the subsidiary exceeds Rs. 100 crore or 10% of the asset size of the subsidiary, whichever is lower."
- The recommendation assumes significance in the wake of SEBI's January order barring Vijay Mallya and six other entities from the securities market after a probe found that funds were diverted from United Spirits to group companies, including Kingfisher Airlines.
- Among recommendations related to the role of independent directors, the panel sought disclosure of the expertise of the directors being appointed, and capping the maximum number of directorships to seven by April 2020.
- Neeraj Gupta, partner and leader Risk Assurance Services, PwC India, said while the recommendations would strengthen corporate governance, implementation would require fundamental changes on multiple fronts.
- "The recommendations around having at least six directors...reducing the maximum number of listed company directorships and listing out competencies of every director on the board will impact the supply side," said Mr. Gupta. "There could soon be a war for talent as corporate India embarks on the search for good independent directors," he said.

Page: 53



UPSC EXAM 2018 STUDY MATERIAL





Govt. seeks sector-wise plan from industry to spur exports

- Commerce Industry Minister Suresh Prabhu asked Export Promotion Councils and industry associations to prepare a vision statement for their product group that would, in turn, help boost output and exports.
- In a stakeholders' consultation on exports, Mr. Prabhu also stressed the importance of exportled growth and the need to enhance competencies and the need to tap into the global value chain to enhance exports. During the meeting, exporters raised Goods and Services Tax-related issues including those leading to working capital blockage.
- In the context of the mid-term review of the Foreign Trade Policy, exporters wanted incentives for more products under the Foreign Trade Policy and increase in the interest subsidy rates.
- The meeting also provided inputs for a new export strategy focussing on integrating India into the Regional/Global Value Chain, a stable Agri-Export Policy to provide remunerative returns to farmers, focus on high and medium technology sectors for exports, revisiting the focus area (overseas markets) approach and unleashing the potential of services such as tourism, professional services and e-commerce.
- The meeting was attended by the Textiles and Information and Broadcasting Minister Smritilrani, the Minister of State for Commerce and Industry C.R. Chaudhary, and senior government officials.

Three-year licence for contractors

- The government has proposed a major overhaul in the contract labour law, which includes a three-year licence for contractors to work across the country instead of a separate one for new work orders.
- Contractors will no longer require a licence for undertaking each project, as per the proposed changes to the Contract Labour (Regulation and Abolition) Act, 1970.
- "The contractors can obtain a one-time licence valid for three years to work anywhere in the country from the Central Government. The contractor will have to, however, clearly define a particular area of work," a senior Labour and Employment Ministry official said.
- If the contractor wants to work in a single State for up to three years, the permit needs to be obtained from the State Government, according to the proposal.

Page: 54



UPSC EXAM 2018
STUDY MATERIAL





- However, the contractor will need to inform the government whenever it receives a work order from a company, failing which the licence may be cancelled, the proposed law stated.
- The proposed law also seeks to make a distinction between contractors who provide services and those who provide human resources. Contractors who provide human resources to a company will no longer be responsible for providing canteen and restroom facilities to the workers.
- If a work order is given to a contractor who has hired employees on payroll, then the workers will not be treated as contract workers under the Contract Labour (Regulation and Abolition) Act, according to a proposed clarification in the law.
- As per the current law, a worker is "deemed to be employed as contract labour in or in connection with the work of an establishment when he is hired in or in connection with such work by or through a contractor."
- The government has also proposed to make wage payment "primarily" through electronic mode instead of cash payment.
- "The proposed law is in line with International LabourOrganisation Convention 181 [on private employment agencies].

Intelligent' transportation Systems policy

- The NITI Aayog has set up a national-level committee constituting officials from various ministries and States to develop a roadmap for the implementation of the Intelligent Transportation Systems (ITS) policy.
- The National ITS policy will aim to reduce urban traffic congestion, improve parking for vehicles in cities, road safety and the security of passenger and goods traffic.
- The committee will work towards setting uniform standards to implement the ITS in various parts of the country, Anil Srivastava, IAS, Advisor, (Infrastructure) NITI Aayog, said during an event organised by the International Road Federation.
- According to Mr. Srivastava, subjects covered under the panel's purview would include traffic management, parking management, electronic enforcement of traffic rules and fleet management. The committee's mandate would also include monitoring and encouraging pilot projects.

MF schemes to be categorized into five groups

Page: 55



UPSC EXAM 2018
STUDY MATERIAL





- The Securities and Exchange Board of India (SEBI) has directed mutual funds to categorise all their schemes into five broad groups namely: equity, debt, hybrid, solution oriented and other.
- Further, within the broad groups, the regulator has allowed fund houses to have schemes based on parameters such as market capitalisation, investment strategy, tenure of instruments (for debt schemes) and the share of equity and debt.
- "It is desirable that different schemes launched by a mutual fund are clearly distinct in terms
 of asset allocation, investment strategy, etc. Further, there is a need to bring in uniformity in
 the characteristics of similar type of schemes launched by different mutual funds," said the
 SEBI circular, adding that it would ensure that mutual fund investors will be able to evaluate
 the different options available before taking an informed decision.

Small businesses compliance burden reduced through new announcements of GST council

- In what should come as relief to exporters and small businesses, the GST Council announced a slew of decisions to reduce their compliance burden, including the eventual setting up of an ewallet for input tax credits for exporters, and the option for small businesses to file returns and pay taxes only once a quarter.
- The changes come two days after Prime Minister Narendra Modi said he had instructed the Council to find solutions to the problems being faced by traders.
- "The committee of secretaries, set up to look into the problems faced by the exporters, found that the credit blockage felt by them was causing a liquidity problem," Finance Minister ArunJaitley told reporters following the 22nd GST Council meeting.
- "In light of this, we have taken three decisions... By October 10, the refunds for July will be processed and paid, and by October 18, the same for refunds for August. The Council has also decided that each exporter will get an e-wallet in which a nominal sum will be deposited for tax credit purposes, which will be offset against the credit refund when it happens."
- The third decision regarding exporters taken by the Council is to impose a nominal 0.1% GST rate for them till March 31, 2018, Mr. Jaitley said. The e-wallet system is expected to rollout from April 1, 2018, he added.
- The GST Council also reduced the tax rates on 27 items, Mr. Jaitley said.
- These include sliced dried mangos, khakhra and plain chappatis, unbranded ayurvedic medicines, plastic, rubber and paper waste, yarn, diesel engine parts, pump parts, e-waste and several services.
- The changes and initiatives announced by the Government following the GST Council meeting will address the problems of the exporters, particularly those in micro and small

Page: 56



UPSC EXAM 2018 STUDY MATERIAL





segments," Federation of Indian Export Organisations (FIEO) President Ganesh Kumar Gupta said in a statement. "The refund of GST for July by October 10 and August by October 18 will address the liquidity concerns of the exporters."

- "Various relief granted by the GST Council today will be a major breakthrough in simplifying GST
 and encouraging fast adoption & access of GST among the trading community of the country
 and will clear the air of uncertainty and chaos," the Confederation of All India Traders (CAIT)
 said in a note. "In the wake of current situation where traders are a depressed lot, such relief
 were much awaited and will change the code and colour of GST on a positive note."
- "The collection pattern observed so far shows that a substantial portion of the tax is coming from the big players," MrJaitley said. "However, while the small players have a low tax burden, they have a high compliance burden. So, we have taken a few decisions to reduce this burden on them."
- The Finance Minister announced that the composition scheme meant to ease compliance for small businesses will be extended to businesses with a turnover of Rs. 1 crore a year from the previous limit of Rs. 75 lakh.
- In addition, the Council has decided that all businesses with a turnover of Rs. 1.5 crore or less a year, can file their returns and pay taxes on a quarterly basis instead of a monthly basis.

Page: 57



UPSC EXAM 2018
STUDY MATERIAL





MCQ

Ques- Indian ocean dipole, a metereologicalphenomena measures temperature between which of the following?

- A. Indian and Pacific ocean
- B. Indian ocean and Bay of Bengal
- C. Indian ocean and Arabian sea
- D. None of the above

Ans C

Ques- Consider the following This crop requires

- 1) Average annual temperature of 25-27 deg
- 2) Well distributed rainfall over 150-200
- 3) Deep rich well drained soil This crop is
- a) Rice
- b) Cocoa
- c) Coffee
- d) Tea

Ans B

Ques- Which state in India produces maximum sugarcane?

- A. Uttar Pradesh
- B. Maharashtra
- C. Tamil Nadu
- D. West Bengal

Ans A

Ques) which of the following statements correct

A) Price based Index takes into account Price Returns of the stocks and also dividends paid out on the stocks.

Page: 58



UPSC EXAM 2018 STUDY MATERIAL





- B) Total Return Index captures the movement of prices but leaves the dividends and interest earned.
- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 4

- Ques) Sathyamangalam Tiger Reserve (STR) is located in
 - A) Tamil Nadu
 - B) Karnataka
 - C) Odisha
 - D) Andhra Pradesh

Ans A

Ques)

- A) Hindi written in Devanagari script to be the official language of the Union
- B) Official Languages Act 1963 act enabled the use of English indefinitely

Which of the above statements correct

- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques- Which of the following is India's first open defecation free city is

Page: 59



UPSC EXAM 2018 STUDY MATERIAL





- a. Mysuru
- b. Hyderabad
- c. Bengaluru
- d. Indore

Ans A

Ques- Which of the following is correct regarding Indian meteorological department?

- 1. Mr. H. F. Blanford was first appointed Meteorological Reporter
- 2. IMD was setup in 1875
- 3. Presently it provided village level rain forecast
- A. 1,2 only
- B. 1,3 only
- C. 2,3 only
- D. All

Ans A

Ques- Which of the following is correct regarding National commission for Backward classes?

- 1. Commission came as a result of IndraSawhney&Ors. Vs. Union of India case
- 2. Commission consists of five members and Chairman must necessarily be retired judge of the supreme court
- A. 1 only
- B. 2 only
- C. Both
- D. None

Ans A

Ques) Which of the following statements regarding Bakhshali manuscript correct

- A) It is a Mathematical text
- B) It is written in Sarada script
- 1) A only

Page: 60



UPSC EXAM 2018 STUDY MATERIAL



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- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques)

- A) Predicted in 1916 by Thomas Elva Edison on the basis of his theory of general relativity
- B) Gravitational waves are 'ripples' in the fabric of space-time caused by some of the most violent and energetic processes in the Universe

Which of the above statements correct

- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 2

Ques) which of the following influences Indian Weather

- A) The shifting of ITCZ
- B) El-Nino
- C)Jet streams
- 1) A only
- 2) A and B only
- 3) All
- 4)B only

Ans 3

Ques)

- A) The rivers Ganga and Yamuna meet at Varanasi
- B) River Son is the left bank tributary of River Ganga

Which of the above statements correct

- 1) A only
- 2) B only

Page: 61



UPSC EXAM 2018 STUDY MATERIAL





- 3) Both A and B
- 4) Neither A nor B

Ans 4

Ques) Match the following space agencies with their countries

- 1) Roscosmos a) Japan
- 2) CRISP b) Singapore
- 3) JAXA. c) Russia
- 4) SPARROS d) Bangladesh
- A) 1-a, 2-b, 3-c, 4-d
- B) 1-b, 2-d, 3-c, 4-a
- C) 1-c, 2-b, 3-a, 4-d
- D) 1-a, 2-c, 3-b, 4-d

Ans C

Ques) which of the following statements regarding Marginal Cost Lending Rate correct (MCLR)

- A) It is mandatory for banks to consider the repo rate while calculating MCLR
- B) It is revised monthly by the banks
- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques)

- A) Silk Road is a part of UNESCO World Heritage Site
- B) Silk Road was established during the Han Dynasty of China

Page: 62



UPSC EXAM 2018 STUDY MATERIAL





Which of the above statements correct

- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques)

- A) Sufism is practice of going towards the Truth by means of love and devotion ieTarigat
- B) Qawwali is a form of Sufi devotional music

Which of the above statements correct

- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques)

- A) The pure dance is called a nritta.
- B) The expressive dance is called a nritya.

Which of the above statements correct

- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques)

A) Namdapha National Park- Meghalaya

Page: 63



UPSC EXAM 2018 STUDY MATERIAL





- B) Dudhwa National Park Uttar Pradesh
- C) Dachigam National Park- Jharkhand

Which of the above correctly paired

- 1) A and B
- 2) B only
- 3) Conly
- 4) A Only

Ans 2

Ques) Which of the following statements regarding Bioslurry pellet method correct

- A) It is a combination of direct way of sowing seeds and the System of Rice Intensification (SRI)
- B) In this method two or three rice seeds are inserted into a specially prepared mixture of cow dung
- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Ques) Which of the following is not a signatory to Joint Comprehensive Plan of Action (JCPOA)

- A) International Atomic Energy Agency (IAEA)
- B) Russia,
- C) China,
- D) India

Ans D

Ques) According to the new three-year licence for contractors

- A) Contractors can work across the country instead of a separate one for new work orders.
- B) It seeks to make a distinction between contractors who provide services and those who provide human resources.

Page: 64



UPSC EXAM 2018 STUDY MATERIAL





Which of the above statements correct

- 1) A only
- 2) B only
- 3) Both A and B
- 4) Neither A nor B

Ans 3

Page: 65



UPSC EXAM 2018
STUDY MATERIAL





IMPORTANT ARTICLES FROM VARIOUS NEWSPAPERS

Say yes or no (THE INDIAN EXPRESS)

When I see an actual flesh-and-blood worker in conflict with his natural enemy, the policeman, I do not have to ask myself which side I am on," wrote George Orwell in 1938, in Homage to Catalonia. It appears that 21st century Catalans agree. With Catalan leader CarlesPuigdemont ready to declare statehood and Spanish prime minister Mariano Rajoy dismissing his claims, the referendum in Catalonia has come to nothing. Indeed, state violence has pushed both parties into very tight corners. Prior to the vote, the sense of the nation was that the majority of Catalonians sympathised with the dissatisfactions of the "leavers", but would not leave themselves. Violent repression that left 900 people injured appears to have tilted the scales, and 42.3 per cent of Catalans favour secession.

The referendum is often an instrument of last resort, like in Eritrea in 1993, where a record 99.8 per cent voted for secession from Ethiopia in a vote following years of civil war. In India, the other extreme could be seen in the ambitions and proposals of the AamAadmi Party, which had resolved to take Delhi back to the Athens of Pericles. Using the referendum in a situation which is not black and white, where the instruments of deliberative democracy are available, amounts to a short-circuiting of due process. Lobbing the question out of legislatures and back at the people opens up decision-making to numerous political defects. First, the question becomes attenuated, dropping nuances and complexities to resolve into a straight yes or no. That's why Brexit has left behind a state of confusion in Britain. Secondly, the referendum can turn easily majoritarian, and minority opinion may not find expression in the results. It will seek an outlet by less palatable means. Just as it strips complex political preferences down to a minimal binary, it strips away the layered decision-making and the checks and balances that the institutions of representative democracy offer. A recourse to direct democracy may work in situations when the outcome is a foregone conclusion because of the forces of history, as in the case of Eritrea, East Timor or arguably the movement for Scottish independence, whose roots are as old as the recipe for haggis. But in other cases, it can only be reductionist, absolving the leadership of its responsibility to

Page: 66



UPSC EXAM 2018
STUDY MATERIAL





talk and deliberate.

The Catalan referendum has only drawn the battle lines and scuppered the possibility for talks. Meanwhile, the Middle East regards the referendum of Iraqi Kurdistan of September 25 with trepidation. It was non-binding but the Kurds are already working towards a state, and Baghdad may react as unkindly as Madrid has done. It confirms that a referendum used as a first resort cannot serve as a reliable compass.

One nation, many polls (THE INDIAN EXPRESS)

The idea of simultaneous elections to Parliament and state assemblies has been around for some time now. Senior politicians like L.K. Advani have spoken of it; it has been examined by the parliament standing committee and the NitiAayog. Prime Minister Narendra Modi has advocated it. Now, the Election Commission has said it would be possible, logistically, to hold simultaneous polls to the central and state legislatures by September 2018. The idea, however, remains a fundamentally contested one. The EC's recent expression of willingness has been met by an immediate chorus of questions from several opposition parties. These questions deserve to be seriously heard. Because while the proposal of simultaneous polls may draw upon some valid discontents, the solution it offers is problematic at best — and anti-democratic, in fact.

To be sure, there are genuine concerns about the unrelenting election calendar in this country, with a poll always around the corner. This takes a toll in terms of the mounting costs — the growing sums of money spent by the candidates, political parties and government, and the routine flouting of all caps and limits on expenses. A price is also to be paid on the governance front, with ruling parties succumbing to the populist promise and scheme because of an impending election, and then when government slows to a standstill after the code of conduct comes into force ahead of over-long multiphase polls. Yet, there are important concerns about imposing simultaneity on the election calendar from above. To begin with, if simultaneous elections are to be held in 2018-19, what happens to assemblies in states that went to polls last year or this year? And, after simultaneous polls are held, what if a full five-year term is interrupted by political realignments in an assembly, or assemblies? In a

Page: 67



UPSC EXAM 2018
STUDY MATERIAL





vigorous and diverse democracy, there is no guarantee, either, that the Lok Sabha will run for its full term. The point is this: Democratic politics cannot be, it must not be, circumscribed by an artificial fixity of tenure of the legislature. Such an insistence on uniformity and tidiness would only undermine the people's will by making politics more unresponsive and unrepresentative.

The first election in independent India was held simultaneously at the Centre and in the states. But election cycles soon diverged once the realities of mid-term polls, a multi-party system, coalition politics and a federalising polity kicked in. The federalisation of the polity, in particular, has deepened democracy in India, with every state evolving its own specific format and time-table of political competition, and throwing up its own set of priorities and issues. The parliamentary, federal system has worked well for a country of diverse voices and many minorities. The idea of simultaneous polls — one nation, one polls — threatens to re-arrange, curb and flatten out this plural and layered federal system by giving it a more presidential and unitary character. It must be resisted.

Powerful challenge(THE INDIAN EXPRESS)

Prime Minister Narendra Modi has, on several occasions, emphasised universal access to electricity as a priority for his government. In his Independence Day speech in 2015, the PM promised that 18,500 villages would receive electricity in the next 1,000 days. Two years later, nearly 14,500 of these villages have been "electrified". The speed with which the grid has reached these villages is impressive. However, the government's record is sullied by the fact that reportedly more than a fourth of the households in the "electrified villages" do not have a power connection. The significance of the Pradhan MantriSahajBijliHarGharYojana, or the "Saubhagya" scheme, launched by the PM last week should be seen in this context. The scheme changes the metric for measuring progress in electrification from the village to the household-level.

Beneficiaries for free electricity connections under the Saubhagya scheme would be identified using the Socio Economic and Caste Census (SECC) 2011 data. The scheme's document also notes that "Unelectrified households not covered under the SECC 2011 would also be provided electricity connections under the scheme on a payment of Rs 500, which shall be recovered by discoms in 10

Page: 68



UPSC EXAM 2018 STUDY MATERIAL





installments through electricity bills." Free — or subsidised — connections will take care of the last-mile connectivity, often seen as among the biggest stumbling blocks to electricity access in the country. By roping in panchayats and other village-level institutions, the government aims to ensure that Saubhagya does not remain a top-down endeavour. However, the government hasn't found a way out of the other major challenge that afflicts power supply in the country: An electricity connection does not always ensure quality power supply. The government's claims of being power surplus notwithstanding, it is common knowledge that in many parts of the country, people face outages for several hours.

Ensuring reliable supply requires improving the health of discoms. The UDAY scheme, launched in 2015, has made some headway in improving the finances of the state discoms. The losses registered by these companies have been more than 20 per cent less this year. It will be interesting to see how states square the Saubhagya scheme with the requirements of UDAY. Saubhagya grants them the leeway to lower tariffs to people covered under the scheme. But at the same time, UDAY makes it incumbent on the states to pay for all the future losses of discoms. It will be interesting to see how the states strike a balance between the imperatives of improving access and the demands of keeping the discoms in good health.

Denial is no option (THE INDIAN EXPRESS)

Prime Minister Narendra Modi has sought to project the GDP growth slump to 5.7 per cent during April-June as a one-quarter phenomenon. He projected critics of his government's economic management as Cassandras spreading pessimism and despair. The fact is, however, that India has been experiencing a growth slowdown for not one but five successive quarters since January-March 2016. Moreover, this is happening at a time when global trade seems to be rebounding and many economies, advanced and emerging, are showing signs of a revival. And it's not just April-June. Data collected by the Centre for Monitoring Indian Economy on new investment project proposals show these at Rs 84,500 crore for the just ended July-September quarter, which is the lowest since April-June 2014, which was when the Modi government had just taken over. On Wednesday, the Reserve Bank if India scaled down its estimate of growth for 2017-18 to 6.7 per cent, from the 7.3 per cent projection made

Page: 69



UPSC EXAM 2018 STUDY MATERIAL





only two months ago.

Simply put, there's no more room for denial. The Modi government should accept the reality: The economy today is in the middle of a serious growth and investment slowdown that needs to be addressed. Key to this is restoring business confidence that has been dented due to flawed implementation of the GST, rendering prospects for the manufacturing sector uncertain in the near term. It is unwise in this scenario to paint everyone criticising the handling of the economy as a prophet of doom. What is needed is for the government to accept and recognise the slowdown and act on it. Having said that, it is welcome that the Prime Minister has signalled his government's commitment to reversing some of the setbacks to growth. Especially encouraging is the PM's attempt to allay the concerns of traders, his assurance that the government will not get down to retrospective scrutiny of their records and his welcoming of the migration of those from the informal to the formal sector, coming as it does days after former Finance Minister

Yashwant Sinha had written in this newspaper that raid raj had become the order of the day. It must be hoped that the Modi government will now put into action some of the correctives, starting with the GST and the pile of bad loans on the books of Indian banks. Over the next couple of months, this government is going to be severely tested. This is especially so with the upcoming contraction of the balance sheets by both the US Federal Reserve and the European Central Bank, and the risk of outflows. The government has so far wisely resisted calls for a fiscal boost to the economy. Now is the time for it to show that on the economy it means business.

Hopes and fears (The Hindu)

It is only with a great degree of caution and circumspection that the interim report of the Steering Committee of the Constitutional Assembly of Sri Lanka can be welcomed. The panel, chaired by Prime Minister RanilWickremesinghe, has done creditably by producing a forward-looking proposal within 18 months of its first sitting. However, there have been several such reports in the past that envisioned farreaching reforms in the country's structure. None of them found broad acceptance within Sri Lanka's polity. It is thus difficult to see the interim report as the beginning of an irreversible process of constitutional reform. There is room for both hope and fear. There is scope for optimism that Sri Lanka's fractious polity could get its act together and adopt a durable constitution that would protect its unity and stability, distribute powers equitably across ethnic and geographical divisions, and ensure economic prosperity for all. There is equal scope for the fear that the whole process could be

Page: 70



UPSC EXAM 2018 STUDY MATERIAL





derailed by extremists. Yet, there is a sustained effort to build a consensus among all sections of society. The report, which incorporates a framework for key elements of a new constitution, envisages an undivided and indivisible country, with the province as the unit for devolution of power. It suggests that the controversial terms 'unitary' and 'federal' be avoided, and instead Sinhala and Tamil terms that suggest an undivided country be used to describe the republic. Predictably, there is opposition from some parties, which argue that nothing should be done to dilute the state's unitary character.

On the lines of proposals made since the 1990s, the interim report aims to abolish the executive presidency. It introduces the concept of 'subsidiarity', under which whatever function can be performed by the lowest tier of government should be vested in it. Other reforms envisaged are a change from the electoral system solely based on proportional representation to a mixed method under which 60% of parliamentary members will be elected under the first-past-the-post system, and the creation of a second parliamentary chamber representing the provinces. Nationalists worried about the ramifications of devolving power to the periphery are likely to oppose some of the federal features, and may even seek the retention of the all-powerful executive presidency. The report marks a milestone, but it is still at a preliminary stage in a long-drawn process of enacting a new constitution. The government has promised that the pre-eminent status given to Buddhism will remain, an assurance that may help overcome opposition from the majority. The willingness of the Tamil National Alliance to accept a founding document arrived at on the basis of a bipartisan consensus is also a good sign. It is time Sri Lanka set itself free from the shackles of divisive notions of nationalism and charted a new path of equality and reconciliation for itself.

From ocean to ozone, the limits of our planet (The Hindu)

The population of vertebrate species on Earth in the wild saw a dramatic fall of about 30% between 1970 and 2006, with the worst effects being in the tropics and in freshwater ecosystems. Destruction of species' habitats by pollutants and land-use change are obliterating flora and fauna at unprecedented rates. In fact, the ecological footprint of humanity — the natural habitats, such as water and land, transformed or destroyed as a result of human activity — far exceeds the biological capacity of the earth.

In an attempt to understand the natural world, its relationships with human societies and limits, in 2009, Johan Rockström and others from the Stockholm Environment Institute described elements of the biophysical world that link us together. Often regarded as a "safe operating space for humanity", these planetary boundaries include loss of biodiversity, land-use change, changes to nitrogen and phosphorus cycles, ocean acidification, atmospheric aerosols loading, ozone depletion, chemical production, freshwater use and, of course, climate change.

In the course of 12,000 or so years after the last ice age, the Holocene epoch has offered a stable climate, a period of grace for humanity to grow and to flourish, with settlements, agriculture and, more recently, economic and population expansion. This epoch has since given way to the Anthropocene, the exact beginnings of which are debated, but which has led to over-reliance on fossil fuels, industrial agriculture, pollution in water, soils and air, loss of species and so on, which are devastating for many life forms and connected ecosystems throughout the planet.

Page: 71



UPSC EXAM 2018 STUDY MATERIAL





When ecological thresholds or tipping points are crossed, significant large-scale changes may occur, such as breakdown of glaciers in Greenland and the Antarctica, the dieback of rainforests in the Amazon, or failure of the Indian monsoons. Since these boundaries interact with one another and cause changes across scales, crossing a threshold in one domain can speed up or undermine processes in another subsystem. For instance, greenhouse gas (GHG) emissions increase ocean acidification, land-use change often increases GHG emissions, and increasing nitrogen and phosphorus deplete species biodiversity and freshwater resources and increase warming from climate change.

One may regard planetary boundaries as support systems for life on Earth or view them as expressing "carrying capacity" and defining "limits to growth". The latter is a thesis that was originally published nearly half a century ago by the Club of Rome as a book in 1972. It described the situation we would find ourselves in with exponential population and economic growth. While the "limits to growth" argument was challenged for good analytical reasons, it still provided a lens through which to view the changing world of the 21st century. It also offered the idea of thinking about a system as a whole — systems thinking — not just as separate parts and feedback mechanisms as valuable processes in considering long-term change.

The idea of sustainability has been embedded in the human imagination for a very long time and is expressed through our ideas of nature, society, economy, environment and future generations. But it became formally a part of international agreements and discourse when it was recognised at the Earth Summit of 1992 in Rio de Janeiro. This systems view and the recognition of interlinkages among the social, environmental, and economic pillars of sustainability, and between biophysical planetary boundaries and social conditions, are essential to have a chance of keeping the world safe for future generations. It is telling that scholars who work on planetary boundaries regard climate change as one of the easiest to manage and contain.

Solving food challenges with more research (The Hindu)

The world's population is booming. According to estimates, the global population is likely to exceed 9 billion by 2050, with 5 billion people in Asia alone. The capacity to produce enough quality food is falling behind human numbers. Food production in the region must keep pace, even as environment sustainability and economic development are ensured. The answer to these challenges lies in research for sustainable development. As the second goal of the UN's Sustainable Development Goals says: "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture."

India's fivefold increase in grain production over the past 50 years is largely the result of strong scientific research that has focussed on high-yielding crop varieties, better agronomic practices, and pro-farmer policies. However, India continues to face challenges such as food insecurity and malnutrition, particularly in rural areas. Providing the world's growing urban population with safe and healthy food requires both a rural and a peri-urban agricultural movement — a huge challenge, but also an opportunity for ingenuity. Integrating agricultural production, nutrition, and health is emerging as a key focal point throughout Asia, with policymakers shifting their attention to the role of biodiversity and the power of local farming systems to improve nutritional status.

Page: 72



UPSC EXAM 2018 STUDY MATERIAL





There is considerable potential in targeting underused crops such as millets, pulses, and vegetables as a sustainable means of increasing agricultural production and improving nutrition and health in highneed areas. In one project, researchers tested the sustainable use of traditional crops, vegetables, and fruit trees, as well as greater livestock diversity, to increase income and improve food and nutrition security in rural India. This project demonstrated that in three Indian "agro-biodiversity hotspots", home gardens could provide households with up to 135 kg of legumes, vegetables, tubers, leafy greens, and gourds per year — more than double the amount of vegetables they were buying in local markets. These crops add value to existing farming systems by providing an additional source of income and/or more nutritious food for the family. The Food Security Act of 2013 was welcome, as was the inclusion of millets in the Public Distribution System as millets are superior to common grains in many ways and are also climate-resilient. Bio-fortification is also important in overcoming hidden hunger caused by micronutrient deficiencies such as iron, iodine, zinc, vitamin A, and vitamin B12.

Studies show that women make up nearly half of agricultural labourers, yet they carry out approximately 70% of all farm work. Women are among the most disadvantaged because they are typically employed as marginal workers, occupying low-skilled jobs such as sowing and weeding. Our research shows that empowering women is one of the best ways to improve nutrition. Research needs to continue focussing on the needs of women farmers to ensure that they are the direct recipients of development impacts, such as access to markets and income, to improve theirs and their children's access to adequate and diversified diets.

Most importantly, it is crucial to continue to identify issues and seek evidence-based solutions through research. Building on the momentum of recent efforts by the government to improve understanding of India's nutritional situation, there is considerable potential in building partnerships to extend the reach of research for development and to improve the connections between agricultural and nutritional research with extension services and policy. Taking a multisectoral approach that links agricultural and nutritional outcomes will help India sustainably grow, feed its people, and maintain the agricultural sector over the coming decades.

India's research community is poised to be a leader in meeting new food challenges by increasing food quantity and quality to improve food security and nutrition. The world needs to tap into India's research excellence to experiment, innovate, share knowledge, and scale up effective solutions.

An Indian peace road map in Iraq (The Hindu)

The Islamic State of Iraq and al-Sham (ISIS) and its allies have made remarkable inroads into northern Iraq. The contingency plans announced by the government of India, including the dispatch of naval ships, assume that the ISIS advance will continue, leading to a collapse of state authority and an ensuing chaos from which our nationals will have to be extricated. This is the worst-case scenario, and it is always wise to be prepared for the worst, but it appears that the government believes this is the likeliest outcome, which India can do nothing to prevent. These assumptions need to be thought through.

The central assumption, implicit in our planning, is that the ISIS charge will continue unchecked, but this is unlikely. The whirligig of time brings in its revenges; paradoxically, ISIS is the beneficiary of the U.S. "surge," which was directed at its earlier avatars and deployed in the areas and towns that

Page: 73



UPSC EXAM 2018 STUDY MATERIAL





most Indians are now hearing of. The Petraeus strategy was to choke off local support to the Baath diehards and al-Qaeda imports he was hunting. Since in the U.S. view, Iraq was primarily a tribal society, the tribes were the water in which its enemies swam. The tribes of the Sunni triangle, where the uprising was concentrated, were therefore given a choice to join the U.S. against the rebels or be pulverised. Most chose to join, for reasons of compelling self-interest.

Unfortunately for the Sunnis, Iraqi Prime Minister Nouri al-Maliki is rigidly sectarian. Sunnis have been sidelined and persecuted, with the U.S. either helpless or indifferent to the plight of the tribes with whose help it declared the victory which permitted its troops to leave. Sunni fears and anger have soared; their tribes were ripe for rebellion. ISIS, strengthened by its successes in Syria, came along at just the right moment. The provinces it has swept through are those where the principal Sunni tribes live. These tribes are making common cause with a group whose predecessor they first befriended and then fought on behalf of the U.S., but their target remains now, as it was then, a Shia-dominated government in Baghdad that treats them, they believe, as the enemy.

As soon as ISIS moved out of these tribal territories, as it intruded on Kurd turf, for instance, it was repelled. Without the support of the tribes, it cannot make any further headway, and they cannot fight beyond their tribal purlieus. The Sunni tribes know that the closer they come to Baghdad, the greater the chances of the Shia tribes and militia attacking them on their flanks from Najaf and Karbala; they also know that the Army, on what is traditionally Shia heartland, will be much more resolute. It is most unlikely therefore that there will be a military collapse that will force us to evacuate our nationals, though there may be more fighting in the weeks ahead.

Even that should subside, because there are reports that ISIS has taken over to Syria the arms and equipment it captured in the advance in Iraq. Like the Taliban before it, it has now anointed its leader the caliph and promulgated a caliphate. This will be resisted by other groups, in Syria more quickly than in Iraq, because ISIS has already alienated its former allies there. If anything then, the fighting in eastern Syria may escalate, while Iraq relapses into a relative quietude.

Iran and Saudi Arabia will be watching each other like hawks across Iraq. Each needs to be reassured about the other's intentions; neither trusts the other, nor the only present interlocutor, the U.S. There is therefore a role for a country that might bridge the chasm of distrust that divides those who are jockeying for influence in Iraq. Our primary interest in Iraq is in its oil, which is in areas controlled by the Kurds and the Shias. The present turmoil does not affect that interest, but a full-scale civil war would. ISIS cannot bring that about; a clever manipulation of the ISIS threat by the regime in Baghdad, sucking in the U.S. and Iran on its side, and the Saudis on the other, would. With Indians held hostage, and the regime apparently unable to rescue them, there is a natural anxiety in India to look for help where we can find it; the prospect of an intervention by the U.S. and/or Iran might appear appealing, but it would be disastrous for our long-term interests in Iraq as it would for the country.

Empowerment without well-being (The Hindu)

First generation leaders like Jawaharlal Nehru and eminent modernist Indian sociologists expected that the institution of caste will dissolve under the spell of modernity. However, social realities proved to be far more complex and caste continued to reinvent itself, changing its form but not content and

Page: 74



UPSC EXAM 2018 STUDY MATERIAL





influencing much of socio-economic life. This debate has taken a new turn with the recent decisive electoral victory of the Bhartiya Janata Party under the leadership of Narendra Modi.

Caste-based political parties in Uttar Pradesh and Bihar, who had galvanised the Dalits and Other Backward Classes (OBCs) towards a democratic revolution, experienced their worst electoral defeat. Election surveys conducted by the Centre for the Study of Developing Societies inform that the BJP not only drew massive support from its traditional constituency — upper castes and trading communities — but also attracted a critical number of Dalits and OBCs. One in four Dalits voted for the BJP. The Muslim vote did not make any impact because either their votes got divided between 'secular' parties or the addition of their votes to the non-BJP parties was not sufficient in a first-past-the-post system. The shift of a section of Dalits and OBCs towards the BJP was small, but very critical for the party to emerge victorious. It is also significant because ideologically the BJP believes in carving out an organic unity between different Hindu social groups and preserving social hierarchy between different castes. Why did this section of Dalits and OBCs vote for an ideologically incompatible political formation at the expense of parties that had laboured hard for their political empowerment?

Caste-based parties acquired their political and electoral strength by opposing the 'politics of equal recognition.' Politics of equal recognition promised equal rights and equality between citizens. It was rejected by Dalits and OBCs in favour of the 'politics of difference.' The politics of equal recognition was seen as being 'difference blind' and attesting one hegemonic culture whereas the politics of difference recognised the particularities of each social group and the non-assimilation of group identity. The politics of difference practised by political parties drawing their support from the Dalits and OBCs gave them huge political dividends for almost two decades. However, the politics of difference, argues Nancy Fraser, is not sufficient and has to be complimented by the 'politics of redistribution', that is, policy initiatives for redistributing income, reorganising the division of labour, subjecting investment to democratic decision-making and transforming other basic economic structures. This is where castebased political parties failed and they continued to use the politics of difference as an end rather than as a means to graduate to the politics of redistribution. Dalits and OBCs are caught between political assertion and belief in the domain of culture and electoral politics, and a sense of disappointment that their socio-political empowerment did not translate into economic well-being. This disappointment provided the BJP the space to craft a 'politics around disillusionment', which feeds on the collective estrangement of social groups from their original political choices due to their prevailing economic conditions. It is shaped by two inter-related elements: political rudderlessness and political powerlessness.

Political powerlessness develops when social groups seem to know the appropriate action for achieving their political goals, but are ineffective in practice. The failure of caste-based politics and political parties to usher in what Fraser calls 'transformative recognition [politics of difference] and redistribution' translated into a critical section of Dalits and OBCs shifting their political allegiance to an ideologically contradictory political formation upholding social hierarchy — the BJP — in a classic case of political powerlessness.

The state alone can set the parameters for economic participation, including taking responsibility for the limits of its own control and for the conditions under which political citizens are economically active. Unless the Indian state sets a framework of rights where each able citizen is able to participate_

Page: 75



UPSC EXAM 2018 STUDY MATERIAL





in the market and earn, the politics around disillusionment will continue to persist, albeit taking newer forms and content.

The politics of redistribution is not only crucial for caste-based parties but also for the BJP, if it has to consolidate the impressive electoral gains that it has made in the current election.

Falling off the health-care radar (The Hindu)

The National Health Policy (NHP), 2017 is unable to see the wood for the trees. Life and death questions are dealt with perfunctorily or simply overlooked. For example, it overlooks the rapid rise in the share of the old (60 years or more), and associated morbidities, especially sharply rising non-communicable diseases (NCDs) and disabilities. With rising age, numerous physiological changes occur and the risk of chronic diseases rises. The co-occurrence of chronic diseases and disability elevates the risk of mortality.

Another, more recent report, "Caring for Our Elders: Early Responses, India Ageing Report – 2017 (UNFPA)", complements the NHP by focussing on the vulnerability of the aged to NCDs, recent policy initiatives and the role of non-governmental organisations in building self-help groups and other community networks. While all this is valuable, it fails to make a distinction between the aged in general and those suffering from chronic conditions. It matters as many suffering from chronic conditions and disabilities may find it harder to participate in such networks. Nor are the important questions of the impact of these networks and their replicability discussed except in a piece-meal manner.

The health system is ill-equipped to deal with surging NCDs; nor is the staff well trained to treat/advise the aged suffering from dementia or frailty, and for early diagnosis and management of conditions such as hypertension. The quality of medical care is abysmal, and hospitalisation costs are exorbitant and impoverishing. Health insurance covers a fraction of medical expenses incurred. However, many of these chronic conditions such as hypertension can be prevented or delayed by engaging in healthy behaviours. Supportive families and community networks often make a significant difference.

Based on the India Human Development Survey (IHDS) 2015, among aged males and females (over 60 years), the proportions of those suffering from NCDs nearly doubled during 2005-12, accounting for about a third of the respective populations in 2012. More females than males suffered from these diseases. The proportions were higher among those over 70, and these doubled in the age groups 60-70 years and over 70. A vast majority of those with NCDs had access to medical advice and treatment and the proportion remained unchanged during 2005-12. As there is considerable heterogeneity in providers of medical help — from qualified doctors to faith healers and quacks — and a sharp deterioration in the quality of medical services, it is not surprising that the proportions suffering from NCDs have shot up despite high access. Access to government health insurance nearly doubled but remained low as barriers for the aged remain pervasive. In any case, the proportion of medical expenses covered was measly.

Another measure is the proportion of those married and widowed. However, children often play an important role in elderly support with the caveat that filial piety shows signs of diminishing. An important point is that today, 'women are increasingly filling other roles, which provides them with greater security in older age. But these shifts also limit the capacity of women and families to provide care for older people who need it'. That social networks are effective in providing support to the aged is far

Page: 76



UPSC EXAM 2018 STUDY MATERIAL





from axiomatic as there are questions of size of a network, whether it is proximal or non-proximal and whether there is social harmony. If social networks are instrumental in bonding together in periods of personal crises, this could compensate for a lack of family support, e.g. widows living alone, and help alleviate morbidity.

From a policy perspective, health systems have to be configured to deal with not one NCD but multiple NCDs to manage them better. The impact of multi-morbidity on an old person's capacity, health-care utilisation and the costs of care are significantly larger than the summed effects of each. Besides, the reconfigured medical system must be complemented by stronger family ties and social networks. This is not as Utopian as it may seem as examples of such complementarities abound.\

Tokyo dreams (The Hindu)

Prime Minister Shinzo Abe has gambled his career by calling snap elections to the Lower House of the Japanese Diet in late-October. The term of the House would have ordinarily lasted another year, but he clearly senses a turn in the popular breeze in his favour. Whether the electorate will vindicate his judgment, however, may well depend on the grit and tenacity of his challenger, Tokyo's first woman Governor, Yuriko Koike. The former television anchor achieved an unprecedented feat last year by taking the city's top job, trouncing the official nominee of Mr. Abe's Liberal Democratic Party in a triangular race. Ever since, Ms. Koike, who had served briefly as defence minister during Mr. Abe's first term in 2006-07, has become accustomed to thriving in a crisis. In a repeat of her growing penchant to take on a male-dominated establishment, Ms. Koike floated a local party earlier this year, which spectacularly captured the Tokyo city assembly in July. Now, following the surprise announcement of polls to the Lower House of the Diet, she has launched the Party of Hope, drawing a number of parliamentarians from across the spectrum, including the ruling camp. She has even pledged that her new party would field candidates across the country. In fact, Ms. Koike has been quick to exploit Mr. Abe's decision to seek a fresh mandate more than a year in advance as merely a device to shore up power.

But the Tokyo Governor, in turn, would also be mindful of criticism that she is abandoning her current responsibilities with the plunge into national politics. This is especially so given the coming Olympic Games in Tokyo in 2020, and any impression that she is abdicating the preparatory work could be damaging. Meanwhile, the divided and demoralised opposition Democratic Party, in the midst of a leadership crisis, could work to project Mr. Abe as a symbol of relative stability especially at a time when the North Korean crisis shows no sign of abating. His own personal ratings have also seen a remarkable revival, after allegations of his links to controversial transactions in a land deal had led to a significant dip in opinion polls. The Prime Minister still has his share of challenges to contend with. A new anti-conspiracy legislation to combat terrorism was criticised for lack of public scrutiny and for incorporating intrusive provisions on individual privacy and free speech. Even if he can win a reelection, regaining the current two-thirds majority for his party is far from certain. Such a tally is critical for Mr. Abe to legislate the controversial revision to Japan's pacifist constitution, over which he has staked his reputation. In substantial terms, though, voters may have little to choose between the conservative nationalist stances advocated by Mr. Abe and Ms. Koike.

An eye on the private eye (The Hindu)

Page: 77



UPSC EXAM 2018 STUDY MATERIAL





Economic growth and development have led to the establishment of a large number of private detective agencies. The scale of their work makes them "business enterprises". Their professional expertise ranges from digging up dirt for divorce proceedings to background checks on corporate entities, to tracking terrorism. The government feels that the sensitive nature of this work requires some regulation.

The Private Detective Agencies (Regulation) Bill has been pending in Parliament for the past seven years. The statement of objects and reasons of the proposed law highlights the manner in which the security scenario in India has been affected by international terrorism and extremism, keeping the police and security agencies occupied primarily in facing these challenges.

The government notes that business establishments are increasingly reliant on private investigators for gathering information and intelligence. Therefore, a large number of private detective agencies have come up all over the country. While in most cases, these agencies have helped in meeting the private investigation and vigilance needs of business establishments, there has been growing concern over how these agencies function, as some of them conduct operations without due verification of those employed as agents. Also not observed is due regard for the protection of the rights of individuals who are spied upon.

The proposed law, the government says, would enforce proper norms for the functioning of private detective agencies. It would make sure that agencies with "dubious reputation" close down their businesses. In short, the government wants to regulate the functioning of private detective agencies so that they are run within legal parameters and are accountable to a regulatory authority.

The Bill provides for the constitution of a Central Board at the Central level and State Boards at the State level for the purpose of granting licences to detective agencies. It also makes it mandatory for private detective agencies to hold licenses to carry on their business.

For a knowledge economy (The Hindu)

India plans to pump in over Rs. 10,000 crore to build 20 world-class higher education institutions. However, for knowledge to translate into a wealthy society, we need to do more than just this; we need to create a conducive knowledge ecosystem, which is currently missing from our national plans. Institutions of higher education help in creating such an ecosystem, and improve a nation's productivity and wealth.

By the 1960s, American economists such as Kenneth Arrow and Robert Solow had begun to notice that growth and productivity could not be explained only by capital and labour. This differential they attributed to the knowledge content of an economy. Today, knowledge-intensive and high-technology industries contribute the most to long-term growth. It is no accident that the U.S. accounts for 33% of global output of knowledge-intensive services, China 10%, but India only 2%. In high-technology manufacturing, India barely exists.

It is here that institutions step in. The creation of a knowledge ecosystem that allows for robust institutions that focus on information gathering, planning, research, teaching, credit supply, and ensuring that people are filled with hope rather than derision for the society in which they live will make a society wealthier. Institutions can generate an ecosystem for innovation in many ways: by providing access to knowledge capital, an atmosphere of inquiry, and an experimental environment where those

Page: 78



UPSC EXAM 2018 STUDY MATERIAL





ideas can be tested. Given that the success rate of ideas is rather low, ideas need to be tested constantly. Funding enters the picture only after all this is done. For reality testing, we need collaboration between academic researchers and the users of that knowledge, industry, and government. It is this interface that is rather weak in India.

The heartening thing is that even with a rather low funding to research as percentage of GDP, with very few Indians taking to formal learning and research, India still accounted for 4.4% of the global output of science research publications in 2013. Translating this research into technology remains the weak link. For that to happen, the latest suggestion in the choice-based credit system is to include project work at all levels in higher education institutions.

A rapid test to diagnose Zika and dengue (The Hindu)

An international team, including researchers from India, has developed a low-cost, rapid diagnostic test for diagnosing Zika and dengue viruses and differentiating the four serotypes of dengue virus. None of the rapid tests available is capable of differentiating the four dengue virus serotypes. The diagnostic test has nearly 76-100% sensitivity and specificity in the case of dengue, while the sensitivity is 81% and specificity 86% in the case of Zika.

The researchers injected specific flavivirus nonstructural 1 (NS1) proteins produced by Zika and dengue viruses into mice to generate monoclonal antibodies. They identified pairs of antibodies that can specifically detect and distinguish each of the four dengue serotype NS1 proteins as well as the Zika NS1 protein. They took the antibody pairs and coated each antibody on a strip of chromatography paper at two different spots. One of these antibodies was attached to gold nanoparticles.

The appearance of the pink spot indicates positivity to either Zika virus or dengue virus. And in the case of a serotype test, it indicates the respective dengue virus serotype. The team has also developed a pan-dengue strip which indicates positivity to dengue virus without cross-reacting with Zika NS1 unlike the current kits. The strip cannot differentiate between the four serotypes.

The cost of electricity (The Hindu)

The cost of electricity can be divided into plant-level costs, grid-level costs, and other costs. Plant-level costs consist of capital, operation and maintenance, and fuelling cost. Capital cost is reflected in the cost of generation by way of interest on debt and return on equity. For nuclear power plants, capital cost is high, but fuelling cost is low. For coal-fired power plants, capital cost is low, but fuelling cost is high. The capital cost of solar and wind is continuously decreasing; fuelling cost is nil.

Electricity reaches a consumer through the grid. Laying a grid needs significant investment. A distributor buys electricity from a generator, adds transmission and distribution charges, a charge to recover technical losses, operating expenses, and his profit to determine the tariff to be charged from a consumer. Since several generators are connected to the grid, interaction with the grid and grid-management policies influence the working of a generator. At present, electricity markets do not assign any price to system effects, that is, to the complex interactions among various generators connected to the grid.

In recent years, a large capacity based on variable renewable energy (VRE) sources has been connected to the grid. These sources are intermittent, but get priority feed-in due to nil fuelling

Page: 79



UPSC EXAM 2018 STUDY MATERIAL





cost. A grid manager must ensure that enough dispatchable generation capacity is connected to the grid to meet the peak load in the evening when solar power is not available. Dispatchable generation is provided by baseload technologies like coal and nuclear, and by large hydropower.

Grid-level costs have several components: grid connection, grid extension and reinforcement, short-term balancing costs, and long-term costs for maintaining adequate back-up supply. VRE sources demand much higher back-up, grid connection and reinforcement costs. This aspect needs attention during policy formulation. In December 2016, the Central Electricity Authority issued a draft national electricity plan (DNEP), which refers to system effect and resulting system cost at several places.

The emphasis on VRE sources without any investment in energy storage has converted daily load profile for dispatchable generating stations into a "duck curve", that is, with a reduced electricity load during the day when solar is available and a rapid ramp up in the evening. This lowers the capacity factor of dispatchable generators. The DNEP acknowledges technological and operational challenges posed by the integration of VRE into the grid. It highlights the loss of generation efficiency, high maintenance cost, and higher emissions of combined cycle plants due to cycling and ramping. It details grid integration cost of VRE in qualitative terms.

In the Economic Survey 2016-17 (Volume 2), an attempt has been made to estimate grid-level costs and some other costs. The survey uses the term 'social cost of carbon' to represent economic cost of greenhouse gas emissions. It also adds health costs, costs of intermittency, opportunity cost of land, cost of government incentives and cost arising from stranded assets. It, thus, includes not only system cost, but a significant part of other costs as well. It estimates that the total social cost of renewables was Rs. 11 per kWh, around three times that of coal.

Awaiting police reforms (The Hindu)

The Indian Police Foundation was inaugurated in 2015 to mount pressure on State governments to implement the directions of the Supreme Court on police reforms (Prakash Singh v. Union of India). The court in 2006 had issued seven binding directions to implement those reforms. It took the court a little over 10 years to give its verdict on the writ petition filed by Prakash Singh and me in 1996. We were happy when the orders came because almost all the submissions made by us and several others such as the Commonwealth Human Rights Initiative, the Human Rights Commission, and the Ribeiro Committee were accepted. Eleven years have passed, but States have taken only some grudging steps to implement the reforms. September 22 is is observed every year by the Police Foundation as Police Reform Day to create awareness for the much-needed reforms.

The fact is that political authorities still have a stronghold over the police. When a new government is elected, the first thing it does (as it happened recently in Uttar Pradesh) is to replace the Director General of Police (DGP) of the State. In some cases, this is also happening with the Chief Secretaries. There are a few exceptions, no doubt — the Chief Minister of Bihar changed neither the DGP nor the Chief Secretary, both of whom he inherited from his predecessor under rather acrimonious circumstances.

The result is that the police even today is not trusted by the people. They perceive the force as being

Page: 80



UPSC EXAM 2018 STUDY MATERIAL





partisan, politicised, and generally not very competent. Nothing confirms this more than the frequent demand for probes by the CBI into crimes which can be handled by Criminal Investigation Departments. Even in the recent murder case of journalist-activist Gauri Lankesh, there was a demand for a CBI probe.

Ultimately, it is only strong public opinion that can move the political class to implement the 2006 directives. But the police has to set examples to win public trust. Reform must start at home. Since the political class has a vested interest in the present system, no amount of pressure will work. We will have to fall back on the judiciary, which wants an impartial and professional police force because it knows that the criminal justice system cannot function without a healthy police and investigative agency.

Page: 81



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