

GEOGRAPHY**Planet Nine**

Two physicists, have proposed a new theory according to which planet nine might be a primordial black hole.

Planet Nine:

- Planet Nine is a hypothetical planet in the outer region of the Solar System. As of October 2019, no observation of Planet Nine had been announced.
- Its gravitational effects could explain the unusual clustering of orbits for a group of extreme trans-Neptunian objects (eTNOs), bodies beyond Neptune that orbit the Sun at distances averaging more than 250 times that of the Earth.
- Over the years, scientists have sought to explain several puzzling aspects of the Solar System by attributing these to the influence of Planet Nine. E.G. In a 2016 paper, researchers made out a case for Planet Nine's existence by arguing that it could be responsible for the peculiar alignment of icy objects on the outskirts of the Solar System.

Primordial Black Hole:

- A primordial black hole is one that is believed to have formed immediately after the creation of the universe.
- Like Planet Nine, primordial black holes too have been predicted to exist — including by the late Stephen Hawking — but none has been spotted as yet.

GOVERNANCE- WELFARE SCHEMES, E-GOVERNANCE, SERVICES ETC.**National E-Assessment Centre (NEAC)**

Union Finance Minister Nirmala Sitharaman inaugurated National e-Assessment Centre (NeAC) in New Delhi.

About:

- With this, the Income Tax Department is introducing faceless e-assessment to impart greater efficiency, transparency and accountability in the assessment process. There would be no physical interface between taxpayers and tax officers.
- Under the new system, taxpayers have received notices on their registered emails as well as on registered accounts on the web portal, with real-time by way of SMS on their registered mobile number, specifying the issues for which their cases have been selected for scrutiny.
- Replies to the notices can be prepared at ease by taxpayers at their own residence or office and sent by email to the National e-Assessment Centre by uploading the same on the designated web portal.
- This is another initiative by Central Board of Direct Taxation (CBDT) in the field of ease of compliance for the taxpayers.

Drones For Essential Medical Supplies

The Telangana government has adopted a framework to use drones for last-mile delivery of essential medical supplies such as blood and medical samples in an effort to increase the access to healthcare to communities across the state.

About:

- The framework has been co-designed by the World Economic Forum (WEF) and Apollo Hospitals Group Healthnet Global Limited.
- The project is a part of the WEF's "Medicine from the Sky" initiative that aims to develop source materials for policymakers and health systems to analyse the challenges that come with drone delivery, and to compare this model with other competing delivery models.
- In July, Telangana submitted a proposal for its drone policy to the Directorate General of Civil Aviation (DGCA). The state hopes to become 'beyond visual line of sight' (BVLOS) compliant, making commercial use of drones possible.

Benefits of using drones:

- The core advantage of their use is reduction of the time taken to transport material, and improving supply chain efficiency.

- In Rwanda, drone-related pilot projects have been implemented on a national scale to deliver medical supplies without delay and at scheduled intervals.

e-Dantseva

Union Minister of Health, Dr. Harsh Vardhan launched the eDantseva website and mobile application, the first ever national digital platform on oral health information and knowledge dissemination.

About:

- e-DantSeva contains information about the National Oral Health Program, detailed list of all the dental facility and colleges, Information, Education and Communication (IEC) material.
- it also contains a unique feature called the 'Symptom Checker', which provides information on symptoms of dental/oral health problems, ways to prevent these, the treatment modes, and also directs the user to find their nearest available dental facility (public and private sectors both).
- The website also provides GPRS route/images/satellite images of the facility for easier access to the general population.

Related Info :

- In 2014, National Oral Health Programme in its current form was introduced. The Center for Dental Education and Research (CDER), AIIMS, New Delhi functions as the National Center of Excellence for Implementation of NOHP.

Traffic Offences

The Supreme Court has ruled that if one commits traffic offences like speeding or rash driving, one can be charged under the provisions of both The Motor Vehicles Act as well as the Indian Penal Code.

About:

- The Supreme Court said that this is because "there is no conflict between the provisions of the IPC and the MV Act", and "both the statutes operate in entirely different spheres",
- This court has held that the MV Act is a complete code in itself in so far as motor vehicles are concerned. However, there is no bar under the MV Act or otherwise, to try and prosecute offences under the IPC for an offence relating to motor vehicle accidents.
- With this, the court struck down an order of the Gauhati High Court, which had directed that "road traffic offences shall be dealt with only under the provisions of the Motor Vehicles Act, 1988", and that "in cases of road traffic or motor vehicle offences, prosecution under the provisions of Indian Penal Code, 1860 is without sanction of law".

INTERNATIONAL AFFAIRS- BILATERAL, GROUPINGS, ORGANISATIONS

India Bangladesh Relations

Prime Minister of Bangladesh, Sheikh Hasina paid an official visit to India that included her presence as the Chief Guest at the India Economic Summit organized by the World Economic Forum on 03-04 October 2019.

List of MoUs/Agreements exchanged during Official Visit of Prime Minister of Bangladesh to India:

- Standard Operating Procedure (SOP) on the use of Chattogram and Mongla ports
- MoU on withdrawal of 1.82 cusec of water from Feni river by India for drinking water supply, scheme for Sabroom town, Tripura, India
- Agreement concerning implementation of GoI Line of Credits (LOC) extended to Bangladesh
- MoU between University of Hyderabad and University of Dhaka
- Cultural Exchange Programme- Renewal
- MoU on Co-operation in Youth Affairs
- MoU on providing Coastal Surveillance System

The two leaders also inaugurated through video-link three bilateral development partnership projects:

- Import of Bulk LPG from Bangladesh,
- Inauguration of Vivekananda Bhaban (students hostel) at Ramakrishna Mission, Dhaka
- Inauguration of Bangladesh-India Professional Skill Development Institute (BIPSDI) at the Institution of Diploma Engineers Bangladesh (IDEB), Khulna

Countering America's Adversaries Through Sanctions Act (CAATSA)

According to recent reports, India's planned defence procurement from Russia could get adversely affected due to implementation of Countering America's Adversaries through Sanctions Act (CAATSA).

About:

CAATSA is a United States federal law, that was enacted in August 2017 with the objective of countering the aggression by Iran, Russia and North Korea through punitive measures (e.g. imposing sanctions). Section 231 of the Act empowers the US President to impose sanction on persons engaged in a “significant transaction” with Russian defence and intelligence sectors. Two of the most stringent of these sanctions are:

- suspending export licences related to munitions, dual-use and nuclear related items; and
- ban on American investment in equity/debt of the sanctioned person.

Under Section 231, the Department of State has notified almost all of the major Russian companies (such as Rosoboronexport, Sukhoi Aviation, MiG), dealings with which could make third parties liable to sanctions if it adversely affects US national security and foreign policy interests.

Potential Implication on Indo-Russia defence relations:

- First, India's planned procurement from Russia, particularly the S-400 air defence system, Project 1135.6 frigates and Ka226T helicopters, will come under the immediate scanner of US authorities (as they are mandated to deter exports of key Russian defence entities)
- Second, CAATSA is likely to affect all the joint ventures (JVs) – existing or planned — between Indian and Russian defence companies. Existing JVs that may come under the scanner are: Multi-Role Transport Aircraft Ltd and Brahmos Aerospace.
- Third, it will also affect India's purchase of spare parts, components and raw materials for which India is dependent on Russia for maintenance of existing equipment and domestic licence manufacturing.

INDIAN ECONOMYAcceptance Development Fund (ADF)

RBI has said that the framework for Acceptance Development Fund (ADF) will be set up to increase acceptance of debit and credit cards in tier III and VI cities.

About:

- With the rapid growth in the issuance of cards in the country, there is a need to ensure growth of acceptance infrastructure across the country, especially in Tier III to Tier VI centres.
- In order to increase digitisation in these areas, it has been decided to create an 'Acceptance Development Fund' (ADF) in consultation with the stakeholders – the card issuers (banks) and card payment networks (Visa, MasterCard and RuPay), the government and RBI.
- Currently, India has 42 lakh PoS machines, but with the help of this fund, the penetration into tier-III and tier IV centres is expected to rise.
- The government's contribution to the ADF would come from NABARD's Financial Inclusion Fund (FIF) and RBI's contribution from the Depositors' Education and Awareness (DEA) Fund.
- This was indicated in the Payment System Vision Document 2021 of RBI and also recommended by the Committee on Deepening of Digital Payments (Chaired by Nandan Nilekani).
- The framework will be operationalised by December 2019.

Internal Ombudsman By Large Non-Bank PPI Issuers

To address grievances of wallet holders, RBI has provided for an internal ombudsman for large non-bank Prepaid Payment Instruments (PPIs) with more than 1 crore customers in India.

About:

- To provide a robust mechanism for redressal of customer complaints, the RBI had set up an Ombudsman Scheme for Digital Transactions in January 2019.
- To further strengthen the grievance redressal mechanism at the entity level itself, it has been decided to institutionalise an internal ombudsman scheme at the large non-bank PPI issuers (entities who have more than 10 million pre-paid payment instruments outstanding).
- This will also include users of digital wallets like Mobikwik, PayU and others. RBI said more instructions will be issued in this regard by October 15, 2019.
- There has always been contention among wallets over who has the highest market share. Mobikwik, in the past, had alleged that its competitors were cooking up numbers.

State Budgets

The Reserve Bank of India (RBI) has released its annual study of state-level budgets.

Key Findings:

- Except during 2016-17, state governments have regularly met their fiscal deficit target of 3% of GDP.
- However, most states ended up meeting the fiscal deficit target not by increasing their revenues but by reducing their expenditure and increasingly borrowing from the market.
- This adversely affected the loans that state governments provided to power projects, food storage and warehousing. It also hurt the states' capital budget allocation for key social and infrastructure sectors.
- This reduction in overall size of state budgets likely worsened the economic slowdown that was slowly setting in since the start of 2016-17, when India had grown by 8.2%.
- The overall level of debt-to-GDP has reached the 25% of GDP prudential mark. A slightly stringent criterion as prescribed by the FRBM Review Committee and in line with the revised FRBM implied debt target of 20 per cent will put most of the states above the threshold.
- States have found it difficult to raise revenues. 'States' revenue prospects are confronted with low tax buoyancies, shrinking revenue autonomy under the GST framework and unpredictability associated with transfers of IGST and grants.

Why understanding about state government finances is important?

- States now spend one-and-a-half times more than the Union government and, in doing so, they employ five times more people than the Centre.
- Since 2014-15, states have increasingly borrowed money from the market. This has serious implications on the interest rates charged in the economy, the availability of funds for businesses to invest in new factories, and the ability of the private sector to employ new labour.

Public Finance Management System (PFMS) Portal

Under pressure from the Centre, the Punjab Food and Civil Supplies Department has directed all government procurement agencies to link the bank accounts of farmers with the Public Finance Management System (PFMS) portal before the procurement of paddy begins.

About:

- Public Finance Management System (PFMS) portal is an online platform developed and implemented by the office of the Controller General of Accounts (CGA) under the Union Ministry of Finance.
- The PFMS portal is used to make direct payments to beneficiaries of government schemes.
- In the present case, the idea is to monitor the accounts of farmers to ensure they get the payment for their crops from the arhatiyas, who pay farmers only after selling their produce and receiving the money from the buyers.

Why are Arhatiyas against it?

- Arhatiyas (commission agents) remain powerful figures in Punjab's rural landscape.
- Each agent has between 20 and 200 farmers, whose crops he sells. Arhatiyas are also moneylenders who fund farmers' requirements of cash for both cropping operations and personal and social requirements.
- The recent decision has angered the arhatiyas, a large number of whom want the government to roll back its decision. While the government has been underlining the need to bring transparency into the system, the arhatiyas are wary of monitoring.
- They also fear that the linking of farmers' accounts to the PFMS database is only one step short of the government deciding to make payments directly to farmers, cutting the agents out all together.

Black Money

India has received the first tranche of details about financial accounts of its residents in Swiss banks under a new automatic exchange of information framework between the two countries.

About:

- India figures among 75 countries with which Switzerland's FTA has exchanged information on financial accounts within the framework of global standards on Automatic Exchange Of Financial Account Information (AEOI).

- This is the first time that India has received details from Switzerland under the AEOI framework, which provides for exchange of information on financial accounts that currently active as well as those accounts that were closed during 2018.
- It marks a significant milestone in the fight against black money suspected to be stashed abroad.
- The next exchange would take place in September 2020.

Related Info :

- The automatic exchange of information regime kicked off between Switzerland and India from September 1, 2019.
- Automatic Exchange of Information (AEOI) is the exchange of information between countries without having to request it. AEOI exists to reduce global tax evasion.

ISSUES RELATED TO INTERNAL SECURITY AND DISASTER MANAGEMENT

Section 144 (CRPC)

Mumbai Police has imposed section 144 of the Criminal Procedure Code in Aarey Colony banning unlawful assembly, following strong protests by activists against the felling of trees in the green zone for a Metro car shed.

About:

- Section 144 of the Criminal Procedure Code (CrPC) of 1973 generally prohibits public gathering.
- It authorises the Executive Magistrate of any state or territory to issue an order to prohibit the assembly of four or more people in an area. According to the law, every member of such 'unlawful assembly' can be booked for engaging in rioting.
- Section 144 is imposed in urgent cases of nuisance or apprehended danger of some event that has the potential to cause trouble or damage to human life or property.
- Section 144 also restricts carrying any sort of weapon in that area where it has been imposed and people can be detained for violating it. The maximum punishment for such an act is three years.
- No order under Section 144 shall remain in force for more than two months but the state government can extend the validity for two months and maximum up to six months. It can be withdrawn at any point of time if situation becomes normal.

Aarey Colony

- The Aarey Colony (also Aarey Milk Colony) is a neighbourhood situated in Goregaon (East), a suburb of the city of Mumbai. It was established in 1949 to revolutionize the processing and marketing of dairy products in the city.
- The clearing of forest land for the construction of a Metro car shed and Maharashtra Motor Vehicle Department's decision to establish a Regional Transport Office in Aarey are major concerns for environmentalists.

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES

Wildlife Trade

At least one in five vertebrate species on Earth is bought and sold on the wildlife market, according to a new study, the trade for which is 40-60% higher than previously estimated.

About:

- The UK/US team quantified for the first time the species most affected by the global wildlife trade based on a study of the tree of life.
- They used data from the Convention on International Trade in Endangered Species (CITES) of Wild Flora and Fauna and the International Union for Conservation of Nature (IUCN) on about 30,000 bird, mammal, amphibian and reptile species. They did not look at invertebrates or marine animals.

Key findings:

- According to their analysis, 5,579 animals - 18% of vertebrates - are currently being traded globally. An additional 3,196 species are considered at risk - making a total of 8,775 species, or about one in three.
- The study also shows that traded animals are in higher categories of a threat compared with the non-traded species, confirming wildlife trade as a driver of extinction.

- Globally, between \$8 billion and \$21 billion is reaped annually from illegal trade, making it one of the world's largest illegitimate businesses.
- The study, published in Science, identified hotspots for traded birds, mammals, amphibians and reptiles in regions within the Andes mountain range and Amazon rainforest, sub-Saharan Africa, South East Asia and Australia.

Green Crackers

In a bid to resolve the crisis of air pollution, the Government of India launched green firecrackers.

About:

- Council of Scientific and Industrial Research (CSIR) labs have been successful in developing various environment-friendly fireworks such as sound emitting crackers, flowerpots, pencils, chakkar and sparklers.
- The emissions testing facilities for the new fire crackers have been set up at CSIR-NEERI.
- Further, a Raw Materials Compositional Analysis (RACE) facility has been launched in Sivakasi to facilitate manufacturers for testing their raw materials and chemicals.

Related Info :

- In October, 2018, the Supreme Court pronounced its verdict on firecrackers ban. The court said that only green crackers would be allowed for sale.
- What the Supreme Court essentially means is that a low-polluting firecracker within the permitted decibel and emission norms is a green cracker.

Mosaic Mission

Vishnu Nandan, a 32-year-old polar researcher from Kerala, will be the only Indian among 300 scientists from across the world aboard the multidisciplinary drifting observatory for the Study of Arctic Climate (MOSAIC) expedition.

About:

- Full Name: The MOSAiC mission stands for Multidisciplinary drifting Observatory for the Study of Arctic Climate.
- Mission objective: Studying the impact of climate change on the Arctic and how it could affect the rest of the world.
- Significance: MOSAiC, the largest ever Arctic expedition in history, will be the first to conduct a study of this scale at the North Pole for an entire year. Previous studies have been of shorter periods as the thicker sea ice sheets prevent access in winter.

Key highlights of proposed mission:

- Under it, the German research vessel Polarstern has been anchored on a large sheet of sea ice in the Central Arctic. They will allow the water to freeze around them, effectively trapping themselves in the vast sheet of white that forms over the North Pole each winter.
- They will build temporary winter research camps on the ice, allowing them to perform tests that wouldn't be possible at other times of the year or by satellite sensing.

Participants:

- Spearheaded by the Alfred Wegener Institute in Germany, scientists from 17 nations will take part in the year-long mission.
- The mission has received funding from U.S. institutions such as the National Science Foundation, the Department of Energy, the National Oceanic and Atmospheric Administration, and NASA.

BS-VI Norms

Minister for Environment Prakash Javadekar has said that the country will shift to Bharat Stage Six (BS-VI) vehicular emission norms from BS-IV by April 2020. BS VI petrol/diesel is already available in Delhi/NCR.

About:

- Bharat Stage norms are the automotive emission norms which the automotive manufacturers have to comply to sell their vehicles in India. These norms are applicable to all two wheelers, three wheelers, four wheelers and construction equipment vehicles.
- To regulate the output of air pollutants from internal combustion engine equipment. The higher the fuel standard a vehicle complies with, the less polluting it is.

- These are emission standards instituted by the Government of India based on European regulations. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment & Forests and Climate Change.
- To curb growing menace of air pollution through the vehicles emission, the Government of India has decided to leapfrog from the exiting BS – IV norms to the BS- VI, thereby skipping the BS – V norms, and to implement the BS – VI norms with effect from 1st April 2020.

Benefits of BS-VI over BS-IV:

- Sulphur content: The main difference is in the amount of sulphur in the fuel which is reduced from 50 ppm in BS IV fuel to 10 ppm in BS VI fuel for both gasoline and diesel.
- NOx emissions: BS VI norms will address one of the inherent flaws in the European emission standards which permits diesel cars to emit more particulate matter and nitrogen oxide. NOx emissions from diesel cars are expected to come down by nearly 70% and, from cars with petrol engines, by 25%.
- BS-VI sets limits set on Particle Number (PN) for engines, a reference to direct injection engines that emit more particulates but are more efficient and release less carbon dioxide.

SCIENCE AND TECHNOLOGY- EVERYDAY SCIENCE, SPACE, NUCLEAR, DEFENCE ETC

SR9009

The researchers have developed a potential drug to treat heart attack and prevent heart failure -- for which no cure currently exists. The researchers reported the results in Nature Communications Biology.

About:

- When people suffer heart attacks, the resulting scarring of the heart tissue often leads to chronic heart failure. Researchers at the University of Guelph in Canada have discovered a drug that they believe can prevent that scarring and the progression to chronic heart failure.
- The drug, SR9009, works by capitalizing on the circadian clock inside the heart—the genes that turn on and off at specific times to regulate heart rate, blood pressure and other functions.
- In mouse models, administering SR9009 shortly after a heart attack reduced inflammation and scarring, allowing the heart to better repair itself.
- SR9009 works by disrupting genes that would normally activate immune responses after a heart attack. In mice, it tamped down the production of the NLRP3 inflammasome, a protein complex that promotes scarring.

Geotail

The Indian Space Research Organisation (ISRO) tweeted that an instrument on Chandrayaan-2, CLASS, designed to detect signatures of elements in the Moon's soil, had detected charged particles during the mission. This happened in September, during the orbiter's passage through the "geotail".

About:

- The geotail is a region in space that allows the best observations. The region exists as a result of the interactions between the Sun and Earth.
- Once every 29 days, the Moon traverses the geotail for about six days. When Chandrayaan-2, which is orbiting the Moon, crosses the geotail, its instruments can study the properties of the geotail.

How the region is formed?

- The Sun emits the solar wind, which is a continuous stream of charged particles. These particles are embedded in the extended magnetic field of the Sun.
- Since the Earth has a magnetic field, it obstructs the solar wind plasma. This interaction results in the formation of a magnetic envelope around Earth.
- On the Earth side facing the Sun, the envelope is compressed into a region that is approximately three to four times the Earth radius.
- On the opposite side, the envelope is stretched into a long tail, which extends beyond the orbit of the Moon. It is this tail that is called the geotail.

DEFENCE & SECURITY

Army Battle Casualties Welfare Fund (ABCWF)

Raksha Mantri Rajnath Singh has given in principle approval to enhancement of monetary assistance to Next of Kin (NoK) of all categories of Battle Casualty (BC) from Rs 2 lakh to Rs 8 lakh. The amount will be granted under Army Battle Casualties Welfare Fund (ABCWF).

About:

- The ABCWF has been set up under Department of Ex-Servicemen Welfare (ESW), Ministry of Defence
- The ABCWF was instituted in July 2017 and was implemented retrospectively with effect from April 2016 after a large number of people offered to provide monetary assistance to the families of battle casualties following an incident in 2016 at Siachen, wherein 10 soldiers were buried in an avalanche.
- The fund was created under the Charitable Endowments Act, 1890.
- A Bank Account bearing No. 90552010165915 was opened in the South Block Branch of Syndicate Bank, New Delhi for public to deposit money.
- This fund is in addition to the various existing schemes for the welfare of NoK and children of battle casualties in form of additional ex gratia.

PRELIMS SPECIFIC FACTS- INDICES, DAYS, AWARDS ETC.

Asia Environmental Enforcement Award 2019

Senior Indian Forest Service (IFS) officer Ramesh Pandey has been selected for the prestigious Asia Environmental Enforcement Award by the United Nations Environment Programme.

About:

- This is the fourth time the Awards will be given.
- The awards recognize excellence in enforcement by government officials and institutions/teams combating transboundary environmental crime, such as illegal trade in wildlife, chemicals or waste, in Asia.
- This year's Awards will be given in 5 categories: (1) Collaboration; (2) Impact; (3) Innovation; (4) Integrity and (5) Gender leadership. There will be also a separate category for Africa-Asia cooperation in the area of illegal trade in wildlife.
- The 2019 Awards are presented by UN Environment programme (UNEP) in partnership with the UNDP, the United Nations Office on Drugs and Crime, INTERPOL, USAID, Freeland Foundation, and the Government of Sweden.

2019 Nobel Prize in Medicine

Two Americans and a British scientist have been awarded the 2019 Nobel Prize for physiology or medicine for discovering how the body's cells sense and react to oxygen levels, work that has paved the way for new strategies to fight anemia, cancer and other diseases.

About:

- The 2019 Nobel Prize for Physiology or Medicine has been awarded to scientists William G Kaelin, Jr, Peter J Ratcliffe and Gregg L Semenza.
- They received the award jointly for their discoveries of "how cells sense and adapt to oxygen availability. they established the basis for our understanding of how oxygen levels affect cellular metabolism and physiological function.
- Their research has "paved the way for promising new strategies to fight anaemia, cancer and many other diseases.
- The three will share the Nobel prize sum of nine million Swedish kronor or about 9 Lakh 14 thousand US dollar. They will receive their prize from King Carl XVI Gustaf at a formal ceremony in Stockholm on December 10.
- It is the 110th prize in the category that has been awarded since 1901.

QUOTE OF THE DAY

Winners are not people who never fail, but people who never quit.

DAILY ANSWER WRITING PRACTICE

Qns. ISRO's role has been impeccable in making India a global space power, however, there are many challenges and opportunities in the new space age that ISRO needs to address. Discuss.

Answer

It is only because of ISRO's success that India is now acknowledged as a space power in the world. ISRO has delivered many projects serving military as well as socio-economic and commercial needs of India. The major focus areas of space based programmes are satellite communication (INSAT, GSAT), earth observation (Indian Remote Sensing, Geographical Information Systems), satellite-aided navigation (NavIC - Navigation with Indian Constellation), deep space probes (Chandrayaan, Mangalyaan missions), etc. There is emergence of 'new space age' which is used to refer to a global sector of new aerospace companies and ventures working independently of governments to develop faster, better, and cheaper access to space for commercial purposes.

Opportunities in the new space age

- Despite ISRO's impressive capabilities, India's share in global space industry is estimated at \$7 billion (just 2%) covering broadband, DTH television, satellite imagery and navigation. ISRO has significant potential to take lead in the emerging space application services.
- With developments in AI and Big Data Analytics (Industrial Revolution 4.0), several startups have mushroomed, which seek value to explore end-to-end services in the B2B and B2C segments using new space.
- The New Space start-ups discern a synergy with government's flagship programmes like Digital India, Startup India, Skill India and schemes like Smart Cities Mission.
- There is an emerging market for small satellite launch vehicles. Globally, 17,000 small satellites are expected to be launched between now and 2030. ISRO is developing a small satellite launch vehicle (SSLV) expected to be ready in 2019.
- Further, with the coming up of Defence Space Agency and a Defence Space Research Organization, ISRO could now actively embrace an exclusively civilian identity.

Challenges

- Absence of regulatory clarity for the startups working in the space sector.
- With plans for space tourism in the future, there is risk of new space race by the private sector for commercial exploitation of the space sector.
- The Outer Space Treaty bars only state parties to the treaty from weaponization of outer space. Some irresponsible states may use private entities for illegitimate ends in the emerging domain of 'Astro-politics'.
- There is a significant increase in capabilities of states in the global satellite launch missions. This has led to a risk of exponential increase in space junk from satellites which are no longer functional.
- Anti-Satellite Weapons (ASAT) poses a huge risk to future space flights.

Conclusion

So with increasing competition, complexity and demand for space-related activities, there is a growing realisation that national legislation is needed to ensure overall growth of the space sector. A New Space law for India should aim at facilitating growing India's share of the global space economy to 10% in the coming decade.

DAILY CURRENT AFFAIRS MCQS

1. With reference to the Army Battle Casualties Welfare Fund (ABCWF), consider the following statements:
 1. It has been set up under Department of Ex-Servicemen Welfare (ESW), Ministry of Defence.
 2. The fund was created under the Charitable Endowments Act, 1890.
 Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) **Both 1 and 2**
 - (d) Neither 1 nor 2
2. With reference to the to a new study published in Science on wildlife trade, consider the following statements:
 1. At least one in five vertebrate species on Earth is bought and sold on the wildlife market.
 2. Traded animals are in higher categories of a threat compared with the non-traded species.
 Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) **Both 1 and 2**
 - (d) Neither 1 nor 2
3. What is 'SR9009', recently seen in news?
 - (a) **A potential drug to treat heart attack and prevent heart failure.**
 - (b) The only exoplanet known to have both water and temperatures that could be potentially habitable.
 - (c) A Trans-Neptunian object located in the Kuiper belt
 - (d) A ransomware worm that spread rapidly through across a number of computer networks.
4. Which one of the following statements best describes the objective of "Acceptance Development Fund (ADF)", recently in news?
 - (a) It was set up by Department for Promotion of Industry and Internal Trade (DPIIT) to boost startups in India.
 - (b) **It aims to increase acceptance of debit and credit cards in tier III and VI cities.**
 - (c) It is a venture capital fund to promote micro, small and medium enterprises (MSMEs).
 - (d) None of the above
5. With reference to internal ombudsman for large non-bank Prepaid Payment Instruments (PPIs), consider the following statements:
 1. To provide a robust mechanism for redressal of customer complaints, the RBI had set up an Ombudsman Scheme for Digital Transactions in January 2019.
 2. RBI decided to institutionalise an internal ombudsman scheme for entities who have more than 10 million pre-paid payment instruments outstanding.
 Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) **Both 1 and 2**
 - (d) Neither 1 nor 2
6. Section 144 of the Criminal Procedure Code is related to:
 - (a) **Unlawful assembly**
 - (b) Adultery law
 - (c) Homosexuality
 - (d) Sedition
7. Which of the following is/are named as "Green crackers", recently seen in news?
 1. Safe Water Releaser (SWAS)
 2. Safe Thermite Cracker (STAR)
 3. Safe Minimal Aluminium (SAFAL)
 Select the correct answer using the code given below:
 - (a) 1 only
 - (b) 1 and 2 only
 - (c) 2 and 3 only
 - (d) **1, 2 and 3**
8. With reference to the Countering America's Adversaries through Sanctions Act (CAATSA), consider the following statements:
 1. It is a United States federal law, that was enacted in August 2017 with the objective of countering the aggression by Iran, Russia and North Korea through punitive measures.
 2. It empowers the US President to impose sanction on persons engaged in a "significant transaction" with Russian defence and intelligence sectors.
 Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) **Both 1 and 2**
 - (d) Neither 1 nor 2
9. Recently seen in news, National e-Assessment Centre (NeAC), is an initiative of:
 - (a) **Central Board of Direct Taxes**
 - (b) Central Board of Indirect taxes and Customs
 - (c) Securities and Exchange Board of India
 - (d) Reserve Bank of India

10. With reference to the annual study of state-level budgets released by Reserve Bank of India (RBI), consider the following statements:

1. Except during 2016-17, state governments have regularly met their fiscal deficit target of 3% of GDP.
2. The overall level of debt-to-GDP has reached the 25% of GDP prudential mark.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) **Both 1 and 2**
- (d) Neither 1 nor 2

11. With reference to Planet Nine, consider the following statements:

1. It is a dwarf planet orbiting Mars in our Solar System.
2. A primordial black hole is one that is believed to have formed immediately after the creation of the universe.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) **2 only**
- (c) Both 1 and 2
- (d) Neither 1 nor 2

12. With reference to the MOSAiC mission, consider the following statements:

1. Its objective is to study the impact of climate change on the Arctic and how it could affect the rest of the world.
2. It is the largest ever Arctic expedition in history.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) **Both 1 and 2**
- (d) Neither 1 nor 2

13. With reference to the Public Finance Management System (PFMS) portal, consider the following statements:

1. It is an online platform developed and implemented by the Union Ministry of Agriculture.
2. It is used to make direct payments to beneficiaries of government schemes.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) **2 only**
- (c) Both 1 and 2
- (d) Neither 1 nor 2

14. With reference to the Bharat Stage Six (BS-VI) vehicular emission norms, consider the following statements:

1. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment & Forests and Climate Change.

2. The main difference is in the amount of sulphur in the fuel which is reduced from 100 ppm in BS IV fuel to 50 ppm in BS VI fuel for both gasoline and diesel.

Which of the statements given above is/are correct?

- (a) **1 only**
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

15. With reference to recent Supreme Court ruling on traffic offences, consider the following statements:

1. The road traffic offences shall be dealt with only under the provisions of the Motor Vehicles Act, 1988.

2. In cases of road traffic or motor vehicle offences, prosecution under the provisions of Indian Penal Code, 1860 is without sanction of law.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) **Neither 1 nor 2**

16. Who among the following have been awarded the 2019 Nobel Prize for physiology?

- (a) **William G Kaelin, Jr, Peter J Ratcliffe and Gregg L Semenza.**
- (b) Kazuo Ishiguro and Bob Dylan
- (c) James P. Allison and Tasuku Honjo
- (d) Michael W. Young, Michael Rosbash, Jeffrey C. Hall

17. Who among the following has been selected for the prestigious Asia Environmental Enforcement Award 2019 by the United Nations Environment Programme?

- (a) Thanu Padmanabhan
- (b) **Ramesh Pandey**
- (c) Dr. G.B. Deglurkar
- (d) S. Sowmya