

14th May Test Solution

Q 1) :

Ans) [A] : 2 & 3 only

Exp) Statement 2 & 3 are correct

Registration of political parties under Section 29A of the Representation of the People Act, 1951.

Registration of Political Parties

- Registration of Political parties is governed by the provisions of Section 29A of the Representation of the People Act, 1951.
 - A party seeking registration under the said Section with the Commission has to submit an application to the Commission within a period of 30 days following the date of its formation.
 - Guidelines prescribed by the Commission in exercise of the powers are conferred by Article 324 of the Constitution of India and Section 29A of the Representation of the People Act, 1951.
- Guidelines
- As per existing guidelines, the applicant association is, inter-alia, asked to publish proposed Name of the party in two national daily newspapers and two local daily newspapers, on two days for submitting objections, if any, with regard to the proposed registration of the party before the Commission within 30 days from such publication.
 - Notice so published is also displayed on the website of the Commission.

TargetUPSC: Registration of Political Parties in India

In Context

- The AAP formed a government in Punjab state and opened its account in Goa with two seats and a vote share of 6%.
- However, AAP is yet to become a national party.

How are Political Parties registered?

- Political Parties registrations are governed by the provisions of the Representation of the People Act, 1951.
- According to the EC, any party seeking registration has to submit an application to the Commission within a period of 30 days.
- Powers conferred by EC under Article 324 of the Constitution of India and Section 29A of the Representation of the People Act, 1951.
- Section 29A of RPA, 1951: Indian Citizen, Purpose of contesting elections, & 100 registered electors as its members.
- There is no procedure available for the de-registration of dormant political parties.

Conditions for recognising as a state or national party

- For becoming a state party:
 - Must secure six per cent of the votes during the Assembly elections and two Assembly seats;
 - or
 - Six per cent of votes in the LS from the state and an MP from the state; or three per cent of total Assembly seats or three seats (whichever is greater); or
 - One MP from every 25 Lok Sabha seats or eight per cent of total votes in the state during the Lok Sabha election from the state or the Assembly polls.
- For becoming a National Party:
 - If Party is treated as a recognised political party in four or more states.

- Get at least six per cent votes in four states in addition to four Lok Sabha seats.
- It won at least two per cent seats in the LS (i.e., 11 seats in the existing House having 543 members).

Benefits of Political Party Registration

- It is not mandatory to register with the EC, however, registering has its own benefits like:
- A registered political party can avail itself of the provisions of the Representation of the People Act, 1951, (relating to registration of political parties).
- The candidates set up by a political party registered with the EC will get preference in the matter of allotment of free symbols vis-à-vis purely independent candidates.
- More importantly, these registered political parties, over course of time, can get recognition as a 'state party' or a 'national party' subject to the fulfilment of the conditions prescribed by the Commission in the Election Symbols (Reservation and Allotment) Order, 1968.
- As per the rules, if a party is recognised as a 'state party', it is entitled for exclusive allotment of its reserved symbol to the candidates set up by it in the state in which it is so recognised.
- If a party is recognised as a 'national party' it is entitled to exclusive allotment of its reserved symbol to the candidates set up by it throughout India.
- In addition, recognised 'state' and 'national' parties:
 - - need only one proposer for filing the nomination and
 - - are also entitled for two sets of electoral rolls free of cost and
 - - broadcast/telecast facilities over state-owned Akashvani/Doordarshan during the general elections.
- But no travel expenses for star campaigners

About Election Commission India

- It was established in accordance with the Constitution on 25th January 1950.
- It is an autonomous constitutional body responsible for administering Union and State election processes in India.
- The body administers elections to the Lok Sabha, Rajya Sabha, State Legislative Assemblies, State Legislative Councils and the offices of the President and Vice President of the country.
- It is not concerned with the elections to panchayats and municipalities in the states.
- For this, the Constitution of India provides for a separate State Election Commission.

Constitutional Provisions

- Its powers, appointment and duties are mentioned in Part XV of the Constitution (Article 324 to Article 329) and the Representation of People Act.
- Article 324: Superintendence, direction and control of elections to be vested in an Election Commission.
- Article 325: No person to be ineligible for inclusion in, or to claim to be included in a special electoral roll on the ground of religion, race, caste or sex.
- Article 326: Elections to the Lok Sabha and Legislative Assemblies of States to be on the basis of adult suffrage.
- Article 327: Power of Parliament to make provision with respect to elections to legislature.
- Article 328: Power of Legislature of a State to make provision with respect to elections to such Legislature.
- Article 329: Bar to interference by courts in electoral matters.

Q 2) :

Ans) [D] : 2 - 1 - 4 - 3

Exp) Option D is correct

Presence of major and minor elements on the earth will help us in the arrangement.

The Earth's crust is important as it supports human and plant life and contains elements and such as aluminum which facilitate technological development. The most abundant elements in the Earth's crust are presented below:

The Most Abundant Elements In The Earth's Crust

- 1 Oxygen
- 2 Silicon
- 3 Aluminium
- Rank Element
- 4 Iron
- 5 Calcium
- 6 Sodium
- 7 Potassium
- 8 Magnesium
- 9 Titanium
- 10 Hydrogen

TargetUPSC: The Crust

- The crust is the outermost layer of the earth making up 0.5-1.0 per cent of the earth's volume and less than 1 per cent of Earth's mass.
- Density increases with depth, and the average density is about 2.7 g/cm³ (average density of the earth is 5.51 g/cm³).
- The thickness of the crust varies in the range of range of 5-30 km in case of the oceanic crust and as 50-70 km in case of the continental crust.
- The continental crust can be thicker than 70 km in the areas of major mountain systems. It is as much as 70-100 km thick in the Himalayan region.
- The temperature of the crust increases with depth, reaching values typically in the range from about 200 °C to 400 °C at the boundary with the underlying mantle.
- The temperature increases by as much as 30 °C for every kilometre in the upper part of the crust.
- The outer covering of the crust is of sedimentary material and below that lie crystalline, igneous and metamorphic rocks which are acidic in nature.
- The lower layer of the crust consists of basaltic and ultra-basic rocks.
- The continents are composed of lighter silicates - silica + aluminium (also called sial) while the oceans have the heavier silicates - silica + magnesium (also called sima) [Suess,1831-1914 - this classification is now obsolete (out of date)].
- The continental crust is composed of lighter (felsic) sodium potassium aluminium silicate rocks, like granite.
- The oceanic crust, on the other hand, is composed of dense (mafic) iron magnesium silicate igneous rocks, like basalt.

The Mohorovicic (Moho) discontinuity

- Mohorovicic (Moho) discontinuity forms the boundary between the crust and the asthenosphere (upper reaches of the mantle) where there is a discontinuity in the seismic velocity.
- It occurs at an average depth of about 8 kilometres beneath the ocean basins and 30 kilometres beneath continental surfaces.
- The cause of the Moho is thought to be a change in rock composition from rocks containing feldspar (above) to rocks that contain no feldspars (below).

Lithosphere

- The lithosphere is the rigid outer part of the earth with thickness varying between 10-200 km.
- It includes the crust and the upper part of the mantle.
- The lithosphere is broken into tectonic plates (lithospheric plates), and the movement of these tectonic plates cause large-scale changes in the earth's geological structure (folding, faulting).
- The source of heat that drives plate tectonics is the primordial heat left over from the planet's formation as well as the radioactive decay of uranium, thorium, and potassium in Earth's crust and mantle.

The Mantle

- It forms about 83 per cent of the earth's volume and holds 67% of the earth's mass.
- It extends from Moho's discontinuity to a depth of 2,900 km.
- The density of the upper mantle varies between 2.9 g/cm³ and 3.3 g/cm³.
- The lower mantle extends beyond the asthenosphere. It is in a solid state.
- The density ranges from 3.3 g/cm³ to 5.7 g/cm³ in the lower mantle.
- The mantle is composed of silicate rocks that are rich in iron and magnesium relative to the overlying crust.
- Regarding its constituent elements, the mantle is made up of 45% oxygen, 21% silicon, and 23% magnesium (OSM).
- In the mantle, temperatures range from approximately 200 °C at the upper boundary with the crust to approximately 4,000 °C at the core-mantle boundary.
- Because of the temperature difference, there is a convective material circulation in the mantle (although solid, the high temperatures within the mantle cause the silicate material to be sufficiently ductile).
- Convection of the mantle is expressed at the surface through the motions of tectonic plates.
- High-pressure conditions ought to inhibit seismicity in the mantle. However, in subduction zones, earthquakes are observed down to 670 km (420 mi).

Asthenosphere

- The upper portion of the mantle is called as asthenosphere (astheno means weak).
- It lies just below the lithosphere extending up to 80-200 km.
- It is highly viscous, mechanically weak and ductile and its density is higher than that of the crust.
- These properties of the asthenosphere aid in plate tectonic movement and isostatic adjustments (the elevated part at one part of the crust area is counterbalanced by a depressed part at another).
- It is the main source of magma that finds its way to the surface during volcanic eruptions.

The Outer Core

- The outer core, surrounding the inner core, lies between 2900 km and 5100 km below the earth's surface.
- The outer core is composed of iron mixed with nickel (nife) and trace amounts of lighter elements.
- The outer core is not under enough pressure to be solid, so it is liquid even though it has a composition similar to the inner core.
- The density of the outer core ranges from 9.9 g/cm³ to 12.2 g/cm³.
- The temperature of the outer core ranges from 4400 °C in the outer regions to 6000 °C near the inner core.

- Dynamo theory suggests that convection in the outer core, combined with the Coriolis effect, gives rise to Earth's magnetic field.

The Inner Core

- The inner core extends from the centre of the earth to 5100 km below the earth's surface.
- The inner core is generally believed to be composed primarily of iron (80%) and some nickel (nife).
- Since this layer can transmit shear waves (transverse seismic waves), it is solid. (When P-waves strike the outer core - inner core boundary, they give rise to S-waves)
- Earth's inner core rotates slightly faster relative to the rotation of the surface.
- The solid inner core is too hot to hold a permanent magnetic field.
- The density of the inner core ranges from 12.6 g/cm³ to 13 g/cm³.
- The core (inner core and the outer core) accounts for just about 16 per cent of the earth's volume but 33% of earth's mass.
- Scientists have determined the temperature near the Earth's centre to be 6000° C, 1000° C hotter than previously thought.
- At 6000°C, this iron core is as hot as the Sun's surface, but the crushing pressure caused by gravity prevents it from becoming liquid.

Seismic Discontinuities

- Seismic discontinuities are the regions in the earth where seismic waves behave a lot different compared to the surrounding regions due to a marked change in physical or chemical properties.
- Mohorovicic Discontinuity (Moho): separates the crust from the mantle.
- Asthenosphere: highly viscous, mechanically weak and ductile part of mantle.
- Gutenberg Discontinuity: lies between the mantle and the outer core.

Q 3) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

Union Minister of State for Culture Smt. Meenakshi Lekhi released a pictorial book on India's Women Unsung Heroes of Freedom Struggle. Unsung Women Heroes of Indian Independence

- Rani Abakka, the Queen of Ullal, Karnataka fought and defeated the mighty Portuguese in the 16th century.
- Velu Nachiyar, the queen of Sivaganga was the first Indian queen to wage war against the British East India Company.
- Jhalkari Bai, was a woman soldier who grew to become one of the key advisors to the Rani of Jhansi and a prominent figure in the First War of Indian Independence, 1857.
- Matangini Hazra was a brave freedom fighter from Bengal, who laid down her life while agitating against the British.
- Gulab Kaur was a freedom fighter who abandoned her own hopes and dreams of a life abroad to fight for and mobilise the Indian people against the British Raj.
- Chakali Ilamma was a revolutionary woman who fought against the injustice of zamindars during the Telangana rebellion in the mid1940s.
- Padmaja Naidu, the daughter of Sarojini Naidu and a freedom fighter in her own right, who would later become Governor of West Bengal and a humanitarian after Independence.
- The book contains story of Accamma Cherian, an inspirational leader of the freedom movement in Travancore, Kerala, she was given the name 'Jhansi Rani of Tranvancore' by Mahatma Gandhi.
- Aruna Asaf Ali was an inspirational freedom fighter who is perhaps best remembered for

hoisting the Indian National flag in Mumbai during the Quit India Movement in 1942.

Q 4) :

Ans) [D] : Guru Gobind Singh

Exp) Option D is correct

Guru Gobind Singh was the Tenth Nanak or the last of the Sikh preachers to live.

He founded:

- Khalsa Vani - "Waheguru ji ka Khalsa, Waheguru ji ki fateh"
- Principles of Khalsa or the Five 'K's
- Named Guru Granth Sahib the religious text of the Khalsas

TargetUPSC: Guru Gobind Singh

Why in News

Recently, the Prime Minister paid homage to Guru Gobind Singh on his birth anniversary.

About:

- The last of the ten Sikh Gurus, Guru Gobind Singh was born on 22nd December, 1666 in Patna, Bihar.
- His birth anniversary is based on the Nanakshahi calendar according to which it will fall on January 20 in 2021 while for the last year, it was celebrated on January 2.
- He became the Sikh guru at the age of nine, following the demise of his father, Guru Tegh Bahadur, the ninth Sikh Guru.
- He was assassinated in 1708.

Contributions:

- Religious:
 - He is known for his significant contributions to the Sikh religion, including the introduction of the turban to cover hair.
 - He also founded the principles of Khalsa or the Five 'K's'.
 - The Five K's are kesh (uncut hair), kanga (wooden comb), kara (iron or steel bracelet), kirpan (dagger) and kachera (short breeches).
 - These were the five articles of faith that a Khalsa must always adorn.
 - He also laid down many other rules for the Khalsa warriors to follow like abstaining from tobacco, alcohol, halal meat, etc. The Khalsa warrior was also duty-bound to protect innocent people from persecution.
 - He named Guru Granth Sahib, the religious text of the Khalsas and the Sikhs, as the next Guru of the two communities.
- Martial:
 - He fought against the Mughals in the battle of Muktsar in 1705.
 - In the Battle of Anandpur (1704), the Guru lost his mother and two minor sons who were executed. His eldest son also died in battle.
- Literary:
 - His literary contributions include the Jaap Sahib, Benti Chaupai, Amrit Savaiye, etc.
 - He also wrote the Zafarnama which was a letter to the Mughal Emperor Aurangzeb.

Q 5) :

Ans) [C] : 2 & 3 only

Exp) Targetshots

The bad bank - National Asset Reconstruction Company Limited - is ready to commence

operations with 15 cases worth Rs 50,335 crore to be transferred by March 31.

Background

- A key proposal announced in this year's (2021) Budget, a bad bank to deal with stressed assets in the loss-laden banking system, has received all regulatory approvals.
- In every country, commercial banks accept deposits and extend loans.
- The deposits are a bank's "liability" because that is the money it has taken from a common man, and it will have to return that money when the depositor asks for it.
- Moreover, in the interim, it has to pay the depositor an interest rate on those deposits.
- In contrast, the loans that banks give out are their "assets" because this is where the banks earn interest and this is money that the borrower has to return to the bank.
- The whole business model is premised on the idea that a bank will earn more money from extending loans to borrowers than what it would have to pay back to the depositors.
- The scenario in which a bank finds a huge loan not being repaid because, say, the firm that took the loan has failed in its business and is not in a position to pay back either the interest or the principal amount.
- Now imagine a scenario where several banks in an economy face high levels of bad loans and all at the same time.
- That will threaten the stability of the whole economy.

Bad Banks

- It was argued by many that the government needs to create a bad bank - that is, an entity where all the bad loans from all the banks can be parked - thus, relieving the commercial banks of their "stressed assets" and allowing them to focus on resuming normal banking operations, especially lending.
- The bad bank is an Asset Reconstruction Company (ARC) or an Asset Management Company (AMC).
- While commercial banks resume lending, the so-called bad bank, or a bank of bad loans, would try to sell these "assets" in the market.
- The bad bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans. - The takeover of bad loans is normally below the book value of the loan and the bad bank tries to recover as much as possible subsequently. How will the NARCL-IDRCL work?
- The NARCL will first purchase bad loans from banks. It will pay 15% of the agreed price in cash and the remaining 85% will be in the form of "Security Receipts".
- When the assets are sold, with the help of IDRCL, the commercial banks will be paid back the rest.
- If the bad bank is unable to sell the bad loan, or has to sell it at a loss, then the government guarantee will be invoked and the difference between what the commercial bank was supposed to get and what the bad bank was able to raise will be paid from the Rs 30,600 crore that has been provided by the government.
- NARCL will acquire and aggregate the identified NPA accounts from banks, while IDRCL, under an exclusive arrangement, will handle the debt resolution process.

Q 6) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

Flagship Species & Keystone species - A flagship species is a species selected to act as an ambassador, icon or symbol for a defined habitat, issue, campaign or environmental cause.

- By focusing on, and achieving conservation of that species, the status of many other species

which share its habitat - or are vulnerable to the same threats - may also be improved.

- Flagship species are usually relatively large, and considered to be 'charismatic' in western cultures.
- Flagship species may or may not be keystone species and may or may not be good indicators of biological process.
- A keystone species is a species that plays an essential role in the structure, functioning or productivity of a habitat or ecosystem at a defined level (habitat, soil, seed dispersal, etc).
- Disappearance of such species may lead to significant ecosystem change or dysfunction which may have knock on effects on a broader scale.
- Examples include the elephant's role in maintaining habitat structure, and bats and insects in pollination.
- By focussing on keystone species, conservation actions for that species may help to preserve the structure and function of a wide range of habitats which are linked with that species during its life cycle.

TargetUPSC: Species Categorization

Dominant species: These are species with substantially higher abundance or biomass than other species in a community. They exert a powerful control over the occurrence and distribution of other species. For example: Tidal swamps in the tropics are usually dominated by species of mangrove (Rhizophoraceae).

Keystone species: These are species that is not necessarily abundant in a community yet exerts strong control on community structure by the nature of its ecological role or niche. A small number of keystone species can have a huge impact on the environment. A keystone species disappearance would start a domino effect. Other species in the habitat would also disappear and become extinct. The keystone species' disappearance could affect other species that rely on it for survival. For example, the population of deer or rabbits would explode without the presence of a predator. The ecosystem cannot support an unlimited number of animals, and the deer soon compete with each other for food and water resources. Their population usually declines without a predator such as a mountain lion.

Foundation Species: Foundation species play a major role in creating or maintaining a habitat that supports other species. Corals are one example of a foundation species in many islands in the South Pacific Ocean.

Corals produce the reef structures on which countless other organisms, including human beings, live. **Umbrella Species** An umbrella species is a large animal or other organism on which many other species depend.

Umbrella species: Umbrella species are very similar to keystone species, but umbrella species are usually migratory and need a large habitat. Protection of umbrella species is thought to automatically protect a host of other species. Tigers are an example of an umbrella species. Efforts to save wild tigers in forests in the Indian state of Rajasthan also accomplish the goal of saving other species there, such as leopards, boars, hares, antelopes, and monkeys.

Critical Link Species: They are species that play an important role in supporting network species as pollinators, dispersal agents, absorption or circulation of nutrients, etc. Mycorrhizal fungi help the vascular plants in obtaining inorganic nutrients from soil and organic residues.

Flagship species: Flagship species are species that have the ability to capture the imagination of the public and induce people to support conservation action and/or to donate funds. These

are popular, charismatic species that serve as symbols and rallying points to stimulate conservation awareness and action. Examples of flagship species include the Bengal tiger, the giant panda, Asian elephant (*Elephas maximus*), etc. Flagship species can represent an environmental feature (eg. a species or ecosystem), cause (e.g. climate change or ocean acidification), organization (e.g. NGO or government department) or geographic region (eg. state or protected area).

Indicator species: An indicator species is an organism whose presence, absence or abundance reflects a specific environmental condition. Indicator species can signal a change in the biological condition of a particular ecosystem, and thus may be used as a proxy to diagnose the health of an ecosystem. For example, plants or lichens sensitive to heavy metals or acids in precipitation may be indicators of air pollution.

Indicator species can also reflect a unique set of environmental qualities or characteristics found in a specific place, such as a unique microclimate.

Edge species: The species which are found abundantly in ecotone boundary are known as edge species.

Q 7) :

Ans) [B] : 2 only

Exp) Targetshots

Law of Reflection

- The law of reflection defines that upon reflection from a smooth surface, the angle of the reflected ray is equal to the angle of the incident ray, with respect to the normal to the surface that is to a line perpendicular to the surface at the point of contact.
- The reflected ray is always in the plane defined by the incident ray and the normal to the surface at the point of contact of the incident ray.

Regular Reflection

- The images produced by plane mirrors are always virtual, that is they cannot be collected on a screen.
- In the case of curved mirrors with a smooth surface, we can see the images of reflection either virtually or really.
- That is, the images produced by curved mirrors can be either real (collected on a screen and seen), or virtual (cannot be collected on a screen, but only seen).

Irregular Reflection

- Unlike mirrors, most natural surfaces are rough on the scale of the wavelength of light, and, as a consequence, parallel incident light rays are reflected in many different directions irregularly, or diffusely.
- Hence, diffuse reflection helps in seeing the objects and is responsible for the ability to see most illuminated surfaces from any position.

Q 8) :

Ans) [C] : Both 1 & 2

Exp) Targetshots

- Replying to a question asked by Congress' member of Parliament in the Rajya Sabha, Anand Sharma, IT Minister Ashwini Vaishnaw said that the government was open to even more strict social media rules if the house could build a consensus on it.

Rules and Guidelines to make social media companies accountable

- In February last year, the Ministry of Electronics and Information Technology as well as the Ministry of Information and Broadcasting had notified rules and guidelines to hold social media and over-the-top (OTT) content platforms more accountable for the "misuse and abuse" of the content hosted on their platforms.
- As part of the guidelines, the IT ministry had asked all social media companies to appoint an in-house grievance officer.
- The name and contact details of the officer were to be shared with the ministry.
- A resident grievance officer who should have an office in India and be an Indian passport-holding citizen as well as a chief compliance officer who should be present in India and ensure compliance with the platform's compliance with the IT Act and the rules.
- Monthly compliance reports on the complaints received, the action taken and the redressal for such complaints also had to be published by the intermediaries.
- Social media intermediaries who were primarily in the business of peer-to-peer messaging service would have to disclose the first originator of a message.
- Social media intermediaries have challenged this rule before several high courts.
- The rules for OTT platforms had then opted to follow a "soft-touch self-regulatory architecture".

Q 9) :

Ans) [B] : 2 & 3 only

Exp) Statement 2 & 3 are correct

International Religious Freedom Report

- The report is released annually by the US Commission on International Religious Freedom (USCIRF).
- USCIRF is an independent, bipartisan US federal government commission, dedicated of defending the universal right to freedom of religion or belief abroad.
- The USCIRF is an advisory body to the US Congress and has its headquarters at Washington DC.

The report consists of two category of countries:

1. Country of Particular Concern (CPC)
2. Special Watch List Countries

The report also includes USCIRF's recommendations of violent non-state actors for designation by the US State Department as 'entities of particular concern' under IRFA.

- India is currently placed under the Country of Particular Concern (CPC) category.

TargetUPSC: International Religious Freedom Report 2022

Recently, the US Commission on International Religious Freedom (USCIRF) has recommended for the second year in the row to put India on a list (Countries of Particular Concern or CPCs) for the worst violations of religious freedoms in 2021.

- Earlier, the US State Department released a strong and critical report on human rights in India in 2021.

What is USCIRF?

- USCIRF is an independent, bipartisan US federal government commission, dedicated to defending the universal right to freedom of religion or belief abroad.
- It is an advisory body to the US Congress.
- USCIRF's 2022 Annual Report provides recommendations to enhance the U.S. government's promotion of freedom of religion or belief abroad.

- It is Headquartered in Washington DC.
- Established by the US government in 1998 after the inaction of the International Religious Freedom Act, recommendations of USCIRF are non-binding on the state department.
- Traditionally, India does not recognize the view of USCIRF.

What are the Key Highlights of the Report?

- The Report's primary focus is on two groups of countries:
- Country of Particular Concern (CPC): It is a designation by the US Secretary of State of a nation engaged in severe violations of religious freedom under IRFA (International Religious Freedom Act of 1998).
- Special Watch List: A "Special Watch List" country is one that is deemed not to meet all the CPC criteria but engages in or tolerates severe violations of religious freedom.
- The Report also includes USCIRF's recommendations of violent nonstate actors for designation by the US State Department as Entities of Particular Concern (EPCs), under International Review of Financial Analysis (IRFA).
- The report also highlights important global developments and trends related to religious freedom during 2021-including in countries that do not meet the criteria for CPC or SWL recommendations.
- These include the Covid-19 pandemic and religious freedom, blasphemy and hate speech law enforcement, transnational repression, religious intolerance in Europe, deteriorating religious freedom conditions in South Asia, and political upheaval that raises religious freedom concerns.

What are the Latest Recommendations of USCIRF?

- For the CPC List:
- Other than India, countries recommended for the CPC designation are Afghanistan, Nigeria, Syria, and Vietnam.
- Countries recommended for redesignating include Myanmar, China, Eritrea, Iran, North Korea, Pakistan, Russia, Saudi Arabia, Tajikistan, and Turkmenistan as CPCs.
- For A Special Watch List:
- Algeria, Cuba, and Nicaragua were placed in 2021.
- Others include Azerbaijan, CAR, Egypt, Indonesia, Iraq, Kazakhstan, Malaysia, Turkey, and Uzbekistan.
- For EPCs:
- Al-Shabaab, Boko Haram, the Houthis, Hay'at Tahrir al-Sham (HTS), Islamic State in the Greater Sahara (ISGS), Islamic State in West Africa Province (ISWAP or ISIS-West Africa), and Jamaat Nasr al-Islam Wal Muslimin (JNIM).

What are the Concerns Raised about India?

- The report highlighted that the government had "repressed critical voices", especially minority communities and individuals reporting on them.
- It mentions the arrest of rights activist Khuran Pervez in Kashmir, and the July 2021 death of octogenarian Father Stan Swamy, arrested in October 2020 under the Unlawful Activities Prevention Act 1967 (UAPA).
- The report also touches on challenges faced by Non Governmental Organisations (NGOs), especially about foreign funding.
- It also highlights anti-conversion laws. In October 2021, Karnataka's government ordered a survey of churches and priests in the state and authorized police to conduct a door-to-door inspection to find Hindus who have converted to Christianity.

What is the State of Freedom of Religion in India?

- Freedom of religion in India is a fundamental right guaranteed by Article 25-28 of the Constitution of India.
- Article 25 (Freedom of conscience and free profession, practice and propagation of religion).
- Article 26 (Freedom to manage religious affairs).
- Article 27 (Freedom as to payment of taxes for promotion of any religion).
- Article 28 (Freedom as to attendance at religious instruction or religious worship in certain educational institutions).
- Further, Article 29 and 30 of the Constitution deal with the protection of interests of minorities.

Q 10) :

Ans) [D] : 1 & 2 only

Exp) Statement 1 & 2 are correct

Union Home and Cooperation Minister Amit Shah has said the Centre has decided to amend the Multi State Cooperative Societies (MSCS) Act, 2002.

Multi State Cooperative Societies Act, 2002

- Cooperatives are a state subject, but there are many societies such as those for sugar and milk, banks, milk unions etc. whose members and areas of operation are spread across more than one state.
- The Central Act was passed to govern such cooperatives.
- For example, most sugar mills along the districts on the Karnataka-Maharashtra border procure cane from both states.
- They draw their membership from both states, and they are thus registered under the MSCS Act.
- Their board of directors has representation from all states they operate in.
- Administrative and financial control of these societies is with the central registrar, with the law making it clear that no state government official can wield any control on them.
- The exclusive control of the central registrar, who is also the Central Cooperative Commissioner, was meant to allow smooth functioning of these societies.
- The central Act cushions them from the interference of state authorities so that these societies are able to function in multiple states.
- So far 1,479 such societies have been registered.
- Maharashtra has the highest number (567) followed by Uttar Pradesh (147) and New Delhi (133).

TargetUPSC: Multistate Cooperatives

The Centre has decided to amend the Multi State Cooperative Societies (MSCS) Act, 2002 to "plug the loopholes in the Act".

- Earlier, a new Ministry of Cooperation was formed.

Key Points

- About the Multi State Cooperative Societies (MSCS) Act, 2002:
- Multi State Cooperative Societies: Although Cooperatives is a state subject, there are many societies such as those for sugar and milk, banks, milk unions etc whose members and areas of operation are spread across more than one state.
- For example, most sugar mills along the districts on the Karnataka-Maharashtra border procure cane from both states.
- Maharashtra has the highest number of such cooperative societies at 567, followed by Uttar

Pradesh (147) and New Delhi (133).

- The MSCS Act was passed to govern such cooperatives.
- Legal Jurisdiction: Their board of directors has representation from all states they operate in.
- Administrative and financial control of these societies is with the central registrar, with the law making it clear that no state government official can wield any control on them.
- The exclusive control of the central registrar was meant to allow smooth functioning of these societies, without interference of state authorities.
- Associated Concerns:
 - Lack of Checks and Balances: While the system for state-registered societies includes checks and balances at multiple layers to ensure transparency in the process, these layers do not exist in the case of multi state societies.
 - The central registrar can only allow inspection of the societies under special conditions.
 - Further, inspections can happen only after prior intimation to societies.
 - Weak Institutional Infrastructure of Central Registrar: The on-ground infrastructure for central registrar is thin - there are no officers or offices at state level, with most work being carried out either online or through correspondence.
 - Due to this, the grievance redressal mechanism has become very poor.
 - This has led to several instances when credit societies have launched ponzi schemes taking advantage of these loopholes.
- Possible Reforms/Amendments:
 - Strengthening Institutional Infrastructure: The Centre government after consultation with various stakeholders should strengthen necessary institutional infrastructure to ensure better governance of the societies. For example:
 - Increasing the manpower.
 - Technology shall be used to bring in transparency.
 - Involving States: The administrative control of such societies should be vested in the state commissioners.

Cooperatives in India

- Definition:
 - The International Cooperative Alliance (ICA) defines a Cooperative as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise."
- Examples of Successful Cooperatives in India:
 - National Agricultural Cooperative Marketing Federation of India (NAFED),
 - Indian Farmers Fertilisers Cooperative Limited (IFFCO)
 - AMUL
- Constitutional Provisions:
 - The Constitution (97th Amendment) Act, 2011 added a new Part IXB regarding the cooperatives working in India.
 - The word "cooperatives" was added after "unions and associations" in Article 19(1)(c) under Part III of the Constitution.
 - This enables all the citizens to form cooperatives by giving it the status of fundamental right of citizens.
 - A new Article 43B was added in the Directive Principles of State Policy (Part IV) regarding the "promotion of cooperative societies".
- Supreme Court Judgement:
 - In July, 2021, the Supreme Court struck down certain provisions of the 97th Amendment Act, 2011.
 - As per the SC, Part IX B (Articles 243ZH to 243ZT) has "significantly and substantially

- impacted" State legislatures' "exclusive legislative power" over its co-operative sector.
- Also, the provisions in the 97th Amendment were passed by Parliament without getting them ratified by State legislatures as required by the Constitution.
 - The SC held that states have exclusive power to legislate on topics reserved exclusively to them (cooperatives are a part of State list).
 - The 97th Constitutional Amendment required ratification by at least one-half of the state legislatures as per Article 368(2).
 - Since the ratification was not done in the case of the 97th amendment, it was liable to strike it down.
 - It upheld the validity of the provisions of Part IX B which are related to Multi State Cooperative Societies (MSCS).
 - It said that in case of MSCS with objects not confined to one state, the legislative power would be that of the Union of India.

Q 11) :

Ans) [D] : 1, 3 & 4 only

Exp) Statement 1, 3 & 4 are correct

- The Governor has constitutional discretion (i.e., discretion mentioned in the Constitution) in the following cases:
 - i. Reservation of a bill for the consideration of the President.
 - ii. Recommendation for the imposition of the President's Rule in the state.
 - iii. While exercising his functions as the administrator of an adjoining union territory (in case of additional charge).
 - iv. Determining the amount payable by the Government of Assam, Meghalaya, Tripura and Mizoram to an autonomous Tribal District Council as royalty accruing from licenses for mineral exploration.
 - v. Seeking information from the chief minister with regard to the administrative and legislative matters of the state .

- In addition to the above constitutional discretion, the governor, like the president, also has situational discretion in the following cases:

- i. Appointment of chief minister when no party has a clear-cut majority in the state legislative assembly or when the chief minister in office dies suddenly and there is no obvious successor.
- ii. Dismissal of the council of ministers when it cannot prove the confidence of the state legislative assembly.
- iii. Dissolution of the state legislative assembly if the council of ministers has lost its majority.

TargetUPSC: Constitutional Provisions Related to Governor

- Article 153 says that there shall be a Governor for each State. One person can be appointed as Governor for two or more States.
- A Governor is appointed by the President and is a nominee of the Central Government.
- It is stated that the Governor has a dual role.
- He is the constitutional head of the state, bound by the advice of his council of ministers (CoM).
- He functions as a vital link between the Union Government and the State Government.
- Articles 157 and 158 specify eligibility requirements for the post of governor.
- Governor has the power to grant pardons, reprieves, etc. (Article 161).
- There is a CoM with the CM at the head to aid and advise the Governor in the exercise of his functions, except some conditions for discretion. (Article 163)
- Governor appoints the Chief Minister and other Ministers (Article 164).

- Governor assents, withholds assent, or reserves the bill for the consideration of the President passed by the Legislative Assembly (Article 200).
- Governor may promulgate the Ordinances under certain circumstances (Article 213).

Q 12) :

Ans) [C] : 1 - 2 - 4 - 3

Exp) Targetshots

Earth's interior is made of different kinds of materials. Unique layers are there according to their characteristics inside the earth. All those layers are separated from each other through a transition zone. These transition zones are called discontinuities.

There are five discontinuities inside the earth:

- Conrad discontinuity: Transition zone between SIAL and SIMA.
- Mohorovicic discontinuity: Transition zone between the Crust and Mantle.
- Repiti discontinuity: Transition zone between Outer mantle and Inner mantle.
- Gutenberg discontinuity: Transition zone between Mantle and Core.
- Lehman discontinuity: Transition zone between Outer core and Inner core.

Q 13) :

Ans) [C] : 1 & 2 only

Exp) Statement 1 & 2 are correct

Why the East India Company opposed Christian missionary activity in India.

East India Company and missionaries

- The foundation of the opposition was both religious and political, and rooted as much in the East India Company's territories in India as in their home country.
- In June 1793, William Carey, a shoemaker and teacher from Northamptonshire in England, along with John Thomas set sail for a special project in India.
- The Company's Court of Directors' order for the expulsion of all unlicensed British people arriving in India was renewed.
- It was in this context that Carey and Thomas boarded the Danish ship Kon Princess Maria.
- Thus began a long missionary career that also set the stage for others to find the same calling.
- The opposition of the East India Company towards missionary activities in India has been studied extensively but scholars often differ in their explanation of the motives.

Religious reform in England and fear of losing to the French

- This was a period of substantial religious reform activities in England.
- The Protestant dissenters, such as the Lutherians and Puritans who had long been against the Church of England, were joined by several other denominations in the late 18th century.
- Another reason for the Company's antagonism towards missionaries was the expanding territories of the EIC in the late 18th century.
- Between the 1790s and 1813, the Company's territories in India had more than doubled.
- The largest acquisitions were made under the governor-generalship of Richard Wellesley who put significant censorship on the press and restricted freedom of movement of the Europeans.

The Vellore mutiny and the fear of triggering the wrath of Indians

- On July 10, 1806, at the Vellore Fort where the family of Tipu Sultan was imprisoned, Indian sepoys crept up and murdered the European sentries.
- This was the first instance of a sepoy mutiny against the British, predating the 1857 revolt by almost half a century.

- Nearly 200 on the British side were killed or wounded.
- Lord William Bentick, who was the governor of Madras at that time, blamed the new dress regulations for the sepoys as the cause behind the mutiny.
- The new dress code forbade the use of caste and religious marks.
- This, in the opinion of Bentick, was seen by the sepoys as efforts at converting them to Christianity.
- When the Company's charter was renewed through the Charter Act of 1813, it explicitly asserted the Crown's sovereignty over British India.
- It also gave missionaries a free hand and allowed them to preach and propagate their religion.
- By the 1820s and 30s, Protestant missionary activities in India had increased quite a bit, and they did their part in combatting social evils like female infanticide and Sati.

Q 14) :

Ans) [B] : 1 & 2 only

Exp) Statement 1 & 2 are correct

While accepting shariat, Sufi saints did not confine their religious practice to formal adherence and they stressed cultivation of religious experience aimed at direct perception of god. Sufi path could be traversed only under the strict supervision of a spiritual director called 'Pir'. Center of activities of Sufi order is known as 'Khanqahs' were supported by endowment and charity.

TargetUPSC: Sufism

Introduction

- The word 'Sufi' derives its name from another Arabic word 'Suf' which means wool. The Muslim saints who wore garments of coarse wool began to be called Sufi saints.
- Sufism entered India in the 12th century with Muslim invaders and became popular in the 13th century.
- The Sufi's main theme was Wahadut-ul-Wajud (Unity of God).
- It developed first in Iraq. The first Sufi saint was Begum Rabia of Bashera in Iraq.
- Sufi orders were called as Silsilas
- Maximum number of orders were found in Afghanistan

Salient features related to Sufism

- Sufis were a group of religious-minded people who turned to asceticism and mysticism in protest against the growing materialism of the Caliphate as a religious and political institution.
- Sufism derives its inspiration from Islam.
- These Sufis had a deep study of vedantic philosophy and had come in contact with great sages and seers of India.
- Sufism emphasized upon leading a simple life. Sufi saints preached in Arabic, Persian and Urdu etc.
- The Sufis were divided into 12 orders each under a mystic Sufi saint like Khwaja Moinuddin Chisthi, Fariuddin Ganj-i-Shakar, Nizam-ud-din Auliya etc.
- While the orthodox Muslims depend upon external conduct and blind observance of religious rituals, the Sufi saints seek inner purity.
- They were critical of the dogmatic definitions and scholastic methods of interpreting the Qur'an and Sunna (traditions of the Prophet) adopted by theologians.
- Instead, they laid emphasis on seeking salvation through intense devotion and love for God by following His commands, and by following the example of the Prophet Muhammad whom they regarded as a perfect human being.

- The Sufis thus sought an interpretation of the Qur'an on the basis of their personal experience
- Devotion is more important than fast (Roza) or prayer (Namaz).
- Sufis bridged the communal divide as is evidenced by the reverence the Subcontinent's non-Muslim population exhibited for Sufi saints. Sufism around the world and in the Subcontinent had the depth to connect beyond caste, creed and gender

Liberal outlook associated with Sufism

- It does not believe narrow societal classification such as caste
- They awakened a new sense of confidence and attempted to redefine social and religious values.
- Their stress on social welfare led to the establishment of works of charitable nature, opening of orphanages and women service centres.
- A notable contribution of the Sufis was their service to the poorer and downtrodden sections of society. Nizamuddin Auliya was famous for distributing gifts amongst the needy irrespective of religion or caste.
- At a time when struggle for political power was the prevailing madness, the Sufi saints reminded men of their moral obligations. To a world torn by strife and conflict they tried to bring peace and harmony.
- Other ideas emphasized by Sufism are meditation, good actions, repentance for sins, performance of prayers and pilgrimages, fasting, charity and suppression of passions by ascetic practices.

Some of the important Sufi orders are:

1. Chisti
2. Suhrawardi
3. Firadausia
4. Qadri
5. Naqshbandi

Q 15) :

Ans) [C] : 2, 4 & 5 only

Exp) Targetshots

India's GDP is expected to return to pre-Covid levels by the end of 2021-22. But some sectors are struggling more than others, the number of unemployed remains high, and private consumption is low.

Different Types of Economic Recovery V-shaped recovery

- A V-shaped recovery is the best-case scenario, where the economy bounces back immediately after a sharp decline to go back to its prerecession level in less than a year.
- The rebound can be bolstered by appropriate fiscal and monetary policies.

U-shaped recovery

- In a U-shaped recovery, also described as the 'Nike Swoosh' recovery, the economy experiences stagnation for a significant period of time after declining.
- It then rises gradually to its previous peak. This means the recession lasts longer, causing job losses and erosion of savings.

L-shaped recovery

- The L-shaped recovery represents the worstcase scenario.

- Here, the economy fails to regain its peak GDP even after several years.
- This has the longest recession period among all shapes. The downturn and the slow revival sometimes lasts indefinitely.

W-shaped recovery

- Also called the "double-dip recession", a Wshaped recovery sees an economy staging a brief comeback only to fall a second time.
- This scenario breaks consumer confidence and enters the full recovery period that can take up to 2 years.
- The economy will witness two recessionary periods.

K-shaped recovery

- The K-shaped recovery is a new term that economists have created to describe what is happening with the Covid-19 pandemic.
- According to one analysis, the Covid recovery path branches into two different directions.
- Large-cap companies and public-sector enterprises with access to government support and central bank stimulus packages will help some areas of the economy recover faster.
- The small and medium companies, along with blue-collar workers, are left out of the recovery process.
- The divergence between these two groups is represented by the two diagonal lines in the letter K.
- Such a recovery takes place when different parts of the economy recover at vastly different rates.

Q 16) :

Ans) [C] : 1 & 3 only

Exp) Statement 1 & 3 are correct

Organisms occupy a place in the natural surroundings or in a community according to their feeding relationship with other organisms. Based on the source of their nutrition or food, organisms occupy a specific place in the food chain that is known as their trophic level. Producers belong to the first trophic level, herbivores (primary consumer) to the second and carnivores (secondary consumer) to the third. The amount of energy decreases at successive trophic levels. When any organism dies it is converted to detritus or dead biomass that serves as an energy source for decomposers. Organisms at each trophic level depend on those at the lower trophic level for their energy demands.

Each trophic level has a certain mass of living material at a particular time called as the standing crop. The standing crop is measured as the mass of living organisms (biomass) or the number in a unit area. The biomass of a species is expressed in terms of fresh or dry weight. The number of trophic levels in the grazing food chain is restricted as the transfer of energy follows 10 per cent law - only 10 per cent of the energy is transferred to each trophic level from the lower trophic level. In nature, it is possible to have so many levels - producer, herbivore, primary carnivore, secondary carnivore in the grazing food chain.

TargetUPSC: Trophic Level in Ecosystem

Functions of Ecosystem

- Ecological succession or ecosystem development (previous post)
- Homeostasis (or cybernetic) or feedback control mechanisms (previous post)
- Energy flow through the food chain
- Nutrient cycling (biogeochemical cycles) (next post)

Energy Flow Through an Ecosystem - Trophic Levels

(Trophe = Nourishment)

- A trophic level is the representation of energy flow in an ecosystem.
- The trophic level of an organism is the position it occupies in a food chain.
- Trophic level interaction deals with how the members of an ecosystem are connected based on nutritional needs.

Trophic Levels

Autotrophs :: Green plants (Producers)

Heterotrophs :: Herbivore (Primary consumers)

Heterotrophs :: Carnivores (Secondary consumers)

Heterotrophs :: Carnivore (Tertiary consumers)

Heterotrophs :: Top carnivores (Quaternary consumers)

- Energy flows through the trophic levels from producers to subsequent trophic levels is unidirectional.
- Energy level decreases from the first trophic level upwards due to loss of energy in the form of heat at each trophic level.
- This energy loss at each trophic level is quite significant. Hence there are usually not more than four-five trophic levels (beyond this the energy available is negligible to support an organism).
- The trophic level interaction involves three concepts namely

Food Chain

- Transfer of food energy from green plants (producers) through a series of organisms with repeated eating and being eaten link is called a food chain. E.g. Grasses -> Grasshopper -> Frog -> Snake -> Hawk/Eagle.
- Each step in the food chain is called trophic level.
- A food chain starts with producers and ends with top carnivores.
- The trophic level of an organism is the position it occupies in a food chain.
- Types of Food Chains: 1) Grazing food chain and 2) Detritus food chain

Grazing food chain

- The consumers which start the food chain, utilising the plant or plant part as their food, constitute the grazing food chain.
- For example, in a terrestrial ecosystem, the grass is eaten by a caterpillar, which is eaten by lizard and lizard is eaten by a snake.
- In Aquatic ecosystem phytoplankton (primary producers) are eaten by zooplanktons which are eaten by fishes and fishes are eaten by pelicans.

Detritus food chain

- This type of food chain starts from organic matter of dead and decaying animals and plant bodies from the grazing food chain.
- Dead organic matter or detritus feeding organisms are called detrivores or decomposers.
- The detrivores are eaten by predators.
- In an aquatic ecosystem, the grazing food chain is the major conduit for energy flow.
- As against this, in a terrestrial ecosystem, a much larger fraction of energy flows through the detritus food chain than through the grazing food chain.

Detritus food chain

- Bacterial and fungal enzymes degrade detritus into simpler inorganic substances. This process is called catabolism.
- Humification and mineralisation occur during decomposition in the soil.
- Humification leads to accumulation of a dark-coloured amorphous (formless) substance called humus that is highly resistant to microbial action and undergoes decomposition at an extremely slow rate.
- Being colloidal in nature, humus serves as a reservoir of nutrients.
- The humus is further degraded by some microbes and release of inorganic nutrients occur by the process known as mineralisation.
- Warm and moist environment favour decomposition whereas low temperature and anaerobiosis inhibit decomposition resulting in a buildup of organic materials (soils become acidic like in taiga).

Food Web

- Multiple interlinked food chains make a food web.
- Food web represents all the possible paths of energy flow in an ecosystem.
- If any of the intermediate food chains is removed, the succeeding links of the chain will be affected largely.
- The food web provides more than one alternative for food to most of the organisms in an ecosystem and therefore increases their chance of survival.

Q 17) :

Ans) [D] : Neither 1 nor 2

Exp) All Statements are incorrect

First woman reported cured of HIV after stem cell transplant.

Stem Cell Therapy - Stem - Cells: human cells that have the capability to develop into wide-ranging types of cells in the human body, from muscle cells to brain cells, are called stem cells. - A stem cell is an immature or unspecialized cell that can

1. Split to form similar cells
2. Develop into different specialized cells that perform a distinct function.

- No other cell in the body has the natural ability to generate new cell types. Stem cell therapy, also known as regenerative medicine, promotes the repair response of diseased, dysfunctional, or injured tissue using stem cells or their derivatives.
- Stem cells can then be implanted into a person.

TargetUPSC: Stem cell

Recently, Doctors in Mumbai used stem cell therapy to save life of a premature baby boy, who was suffering from a chronic lung disease.

Stem Cell

- Stem cells are the body's raw materials - cells from which all other cells with specialized functions are generated.
- Under certain conditions in the body or a laboratory, stem cells divide to form more cells called daughter cells.
- These daughter cells either become new stem cells (self-renewal) or become specialized cells (differentiation) with a more specific function, such as blood cells, brain cells, heart muscle cells or bone cells.

- No other cell in the body has the natural ability to generate new cell types.
- What is stem cell therapy?
- Stem cell therapy, also known as regenerative medicine, promotes the repair response of diseased, dysfunctional or injured tissue using stem cells or their derivatives.
- Stem cells can then be implanted into a person. For example Mumbai baby boy was injected with 40 million stem cells and gradually the lungs began to repair. In this case, doctors used mesenchymal stem-cell therapy (these are adult stem cells and are different from Embryonic stem cells) on an experimental basis
- Why it is an issue?
- In March 2019, the Union Health Ministry had notified the 'New Drugs and Clinical Trial Rules, 2019' which state that stem-cell derived products are to be used as "new drugs". "This means that any doctor who uses stem-cell therapy needs to take permission from the government.

Clinical Trial Regulations In India

- Central Drugs Standard Control Organization (CDSCO) which comes under the Ministry of Health and Family Welfare is the main body which works on development of regulatory procedures and standards for drugs, cosmetics, diagnostics and devices.
- It lays down regulatory guidance by amending acts and rules; and regulates new drug approval process.
- Its main objective is to standardize clinical research and bring safer drugs to the Indian market.
- The Drug Controller General of India (DCGI) is responsible for giving regulatory permissions for the conduct of clinical trials and is responsible for approval of marketing licenses for drugs in India.

Q 18) :

Ans) [C] : Both 1 & 2

Exp) Targetshots

Most commonly used cryptocurrency tax calculation methods include highest in, first out (HIFO) method; last in, first out method; and highest in, first out method.

Highest in, first out (HIFO) in Crypto taxation

- With highest-in, first-out (HIFO), you sell the coins with the highest cost basis (original purchase price) first.
- HIFO would actually lead to the same total gain as Last in First Out (LIFO).
- In a scenario with hundreds or even thousands of trades, selling your highest-cost basis coins first can lead to significant tax savings.
- Highest in, first out (HIFO) is a method of accounting for a firm's inventories wherein the highest cost items are the first to be taken out of stock.
- HIFO can be used as a "tax minimization" method as it will lead to the lowest capital gains and the largest capital losses.

HIFO in companies

- HIFO inventory helps a company decrease their taxable income since it will realize the highest cost of goods sold.
- A company could decide to use the HIFO method to reduce taxable income, but there are some implications to be made aware of, including:
 1. First, because it is not recognized by GAAP the company's books may come under greater scrutiny by auditors and result in an opinion other than an unqualified one.

2. Second, in an inflationary environment, inventory that was taken in first may be subject to obsolescence.
3. Third, net working capital would be reduced with lower value inventory. Last but not least, if the company relies on asset-based loans, lower inventory value will decrease the amount it is eligible to borrow.

Q 19) :

Ans) [D] : 1, 2 & 3

Exp) Targetshots

Economic Survey 2021 - Highlights

- Delhi has replaced Bengaluru as the startup capital of India as the national capital added over 5,000 startups between April 2019 and December 2021, according to the Economic Survey 2021-22.
- The survey, which was tabled in Parliament Monday, said 4,514 startups were added in Bengaluru during the period.
- With a total of 11,308 startups, Maharashtra has the highest number of recognized startups in the country.
- The Agriculture sector was least affected by the various lockdowns.
- This sector grew even in 2020-21 and again in 2021-22.
- Industrial sector did go through a contraction and now it is about 4.1 per cent above pre-pandemic levels.
- There has been a sharp increase in both tax as well as non-tax revenue.

Q 20) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

Flight test of short-range surface-to-surface ballistic missile 'Pralay' successful.

TargetUPSC: Pralay Missile

Why in News?

Recently, the Defence Research and Development Organisation (DRDO) has successfully conducted maiden flight test of a new indigenously developed surface-to-surface missile 'Pralay'.

- The missile was tested from the Dr A.P.J. Abdul Kalam Island off the coast of Odisha.

About: Pralay' is India's first conventional quasi-ballistic missile and is an answer to any conventional missile attack from northern or western borders.

- A quasi-ballistic missile has a low trajectory, and while it is largely ballistic, it can maneuver in flight.
- The missile has been developed in a way that it is able to defeat the interceptor missiles and also has the ability to change its path after covering a certain range mid-air.
- It is powered with a solid propellant rocket motor and many new technologies.
- The missile guidance system includes state-of-the-art navigation system and integrated avionics.

Background: It is a derivative of the Prahaar missile programme, which was first tested in 2011.

- Prahaar is a surface-to-surface missile with a range of 150 km.
- Primary objective is to bridge the gap between the unguided Pinaka multi-barrel rocket launcher and the guided Prithvi missile variants.

Range: The missile has a range of 150-500 kilometre and can be launched from a mobile launcher.

- Pralay will be the longest-range surface-to-surface missile in the inventory of the Army.
- The Army also has the BrahMos supersonic cruise missile in its arsenal, with a stated range of 290-plus kilometres.

Significance: It will completely change the tactical battlefield dynamics and India will have two conventional missiles with long range.

- The BrahMos will be a cruise option and this one will be the ballistic option.

Q 21) :

Ans) [D] : 1, 2 & 3

Exp) Targetshots

12 Madras High Court judges to retire from service in next one year.

High Court

- In the Indian scheme of judicial system, high court work below the Supreme Court.
- The institution of High Court originated in India in 1862 when the high courts were setup at Bombay, Calcutta and Madras.
- The constitution of India provides a high court for each state; however, the Parliament is authorized to declare a common high court for two or more states.
- The territorial jurisdiction of a high court is coterminus with the territory of a state.
- Furthermore, the Parliament has been empowered to extend or curtail the jurisdiction of a high court over a Union Territory.
- The number of judges in a high court unlike Supreme Court is decided by the President of India rather than the parliament.
- The president can appoint duly qualified persons as additional judges of a high court for a temporary period not exceeding two years when:
 - o There is a temporary increase in the business of the high court.
 - o There are arrears of work in the high court.
- The president can also appoint a duly qualified person as an acting judge of a high court when a judge of that high court is:
 - o Unable to perform the duties of his office due to absence or any other reasons.
 - o Appointed to act temporarily as chief justice of that high court.
- In both the cases, the additional or acting judge cannot hold office beyond 62 year of age.

Q 22) :

Ans) [D] : 1, 2 & 3

Exp) Targetshots

The Hunga Tonga-Hunga Ha'apai volcano, which erupted recently, lies along the Pacific 'Ring of fire'.

Pacific Ring of Fire

- The Pacific 'Ring of Fire' or Pacific rim, or the Circum-Pacific Belt, is an area along the Pacific Ocean that is characterised by active volcanoes and frequent earthquakes.
- It is home to about 75 per cent of the world's volcanoes - more than 450 volcanoes.
- Also, about 90 per cent of the world's earthquakes occur here.
- Its length is over 40,000 kilometres and traces from New Zealand clockwise in an almost circular arc covering Tonga, Kermadec Islands, Indonesia, moving up to the Philippines, Japan, and stretching eastward to the Aleutian Islands, then southward along the western coast of North America and South America.
- The area is along several tectonic plates including the Pacific plate, Philippine Plate, Juan de

Fuca plate, Cocos plate, Nazca plate, and North American plate.

- The movement of these plates or tectonic activity makes the area witness abundant earthquakes and tsunamis every year.

Subduction Zones

- Along much of the Ring of Fire, tectonic plates move towards each other creating subduction zones.

- One plate gets pushed down or is sub ducted by the other plate.

- This is a very slow process - a movement of just one or two inches per year.

- As this subduction happens, rocks melt, become magma and move to Earth's surface and cause volcanic activity.

- Subduction zones are also where most of the violent earthquakes on the planet occur.

- The December 26, 2004 earthquake occurred along the subduction zone where the Indian Plate was subducted beneath the Burma plate.

Tonga

- The Hunga Tonga-Hunga Ha'apai volcano erupted recently, sending ash and smoke thousands of feet into the air.

- The volcano, situated on an uninhabited island, became active in 2009.

- It lies along the Pacific 'Ring of fire', and is just over 60 kilometres from the island nation of Tonga.

- In the case of Tonga, the Pacific Plate was pushed down below the Indo-Australian Plate and Tonga plate, causing the molten rock to rise above and form the chain of volcanoes.

Q 23) :

Ans) [A] : 1 only

Exp) Targetshots

This year marks the 125th birth anniversary of Netaji Subhas Chandra Bose.

Indian National Army (INA) Background

- Following the outbreak of World War II, Japan invaded South East Asia.

- At the time 70,000 troops were stationed in the region, most of them along the Malayan coast.

- Japan conducted a lightning campaign which culminated in the fall of the Malayan peninsula and Singapore in 1942.

- In the Singapore campaign alone, 45,000 Indian prisoners of war were captured.

- It was from these prisoners of war that the Japanese decided to create an auxiliary army which would fight against the British.

First INA

- The first INA was formed under Mohan Singh, a former officer of the British Indian Army captured during the Malay campaign.

- Conditions in the prisoner of war camps, as well as resentment against the British in general, saw many prisoners of war volunteer join the Indian National Army.

- The initiative received considerable support from the Imperial Japanese Army and from the ethnic Indian population of South-East Asia.

- However, disagreements between Mohan Singh and Japanese Army Command regarding the autonomy of the Indian National Army led to the disbandment of the first INA in December 1942.

Second INA

- Mohan Singh himself recommended that Subash Chandra Bose for the leadership role.
- His reputation as a committed nationalist was known to both the Indian diaspora of South East Asia and the Imperial Japanese Army.
- The activities of Subash Chandra Bose in India had forced the British authorities to imprison him, but he escaped and reached Berlin in 1941. - The Japanese were ready to support him and upon their personal invitation, Subash Chandra Bose arrived in Singapore in July 1943 to take command of what would be known as the second Indian National Army, now known by its alternative name as the Azad Hind Fauj.
- The Azad Hind Fauj participated in operation U-Go, the 1944 Japanese campaign towards British India.
- It was commanded by Renya Mutaguchi, Masakazu Kawabe, and Subhas Chandra Bose.
- Although the INA saw initial success during the early phases of the operation, they were forced to withdraw during the battle of Imphal and battle of Kohima (Fought on April 4th, 1944) which saw the disastrous defeat for the Japanese Army at the hands of the British.
- Following the Japanese defeat in World War 2, most of the members of the INA were captured by the British.
- Subash Chandra Bose himself eluded capture and was reported to have died in a plane crash near Taiwan in September 1944.

Q 24) :

Ans) [A] : 1 & 2 only

Exp) Statements 1 & 2 are correct

- The first Independent Islamic Kingdom in South India was the Bahmani Sultanate or the Bahmani Kingdom.
- One of the great medieval Indian kingdoms, the Bahmani Sultanate was founded as a revolt against Muhammad bin Tughlaq of the Delhi Sultanate by Zafar Khan, of Turkish origin.
- Who took the title of Ala-ud-din Hassan Bahman Shah. Establishing a strong rule with nearly 18 kings for about 200 years, the Southern King Krishnadeva Raya defeated the last ruler of Bahmani Empire after which it got disintegrated into 5 states around 1518 AD,
- Collectively known as Deccan Sultanates and individually as: Nizamshahi of Ahmadnagar, Qutubshahi of Golconda (Hyderabad), Baridshahis of Bidar, Imadshahi of Berar, Adilshahi of Bijapur.

TargetUPSC: Bahamani Kingdom

The Deccan region was a part of the provincial administration of the Delhi Sultanate. In order to establish a stable administration in the Deccan, Mohammad bin Tughlaq appointed amiran-i-sada/ Sada Amir, who were the administrative heads of hundred villages. From 1337 the conflict between the officers in Deccan and Delhi sultanate accelerated. This led to the establishment of an independent state in the Deccan in 1347 with the capital at Gulbarga in Karnataka.

Political History:

- Alauddin Hassan Gangu Bahaman Shah was the founder of Bahamani sultanate in the year 1347AD.
- Rivalry with Vijayanagar kingdom over the fertile region of Raichur doab started from his period , and continued till the last of Bahaman rule.
- He had frequent conflicts with Warangal state, reddy kingdoms of Rajhmundry and Kondavidu. Bahman Shah emerged victorious in all these expeditions and assumed the title Second Alexander on his coins.

- Mohammed I succeeded Bahman Shah.
- His attack on Warangal in 1363 brought him a large indemnity, including the important fortress of Golkonda and the treasured turquoise throne, which thereafter became the throne of the Bahmani kings.
- The next hundred years saw a number of Sultans one after another, by succession or usurpation. All of them fought with their southern neighbour, but without gaining much territory.
- In 1425 Warangal was subdued and their progress further eastwards was challenged by the Orissan rulers.
- In the year 1429 Ahmed Shah al wali shifted capital city from Gulbarga to Bidar. The rule of Mohammad III (1463-1482) is worthy of mention because of his lieutenant Mohammed Gawan, a great statesman.

Mohammad Gawan:

- The Bahmani kingdom reached its peak under the guidance of Prime minister Mahmmd Gawan. He was a Persian merchant.
- He was well-versed in Islamic theology, Persian, and Mathematics. He was also a poet and a prose-writer.
- He was also a military genius. He waged successful wars against Vijayanagar, Orissa and the sea pirates on the Arabian sea.
- He built a Madarsa at Bidar in Persian architectural style.
- This madarasa was great learning centre with collection of 3000 manuscripts from all over the world.
- Gawan's progress was not tolerated by native Muslim leaders. They made false allegations. They made Sultan to punish him with death sentence.
- After execution of Gawan Bahamani Sultanate started to decline.
- After few years Sultanate gradually broke up into five independent kingdoms: Bijapur, Ahmadnagar, Berar , Golkonda and Bidar.

Administration:

- The kingdom was divided into four administrative units called 'taraf' or provinces. These provinces were Daultabad, Bidar, Berar and Gulbarga
- Every province was under a tarafdard who was also called a subedar
- Some land was converted into Khalisa land from the jurisdiction of the tarafdard. (Khalisa land was that piece of land which was used to run expenses of the king and the royal household).
- Nobles used to get their salary either in cash or in form of grant of land or 'jagir'.

Military:

- Bahamani ruler depended for military support on his amirs
- There were two groups in the ranks of amirs: One was the Deccanis who were immigrant Muslims and had been staying for a long time in the Deccan region. The other group was Afaquis or Pardesis who had recently come from Central Asia, Iran and Iraq.
- Bahamanis were familiar with the use of gunpowder in warfare.

Literature:

- Persian ,Arabic and Urdu literature flourished in this period.
- Mohammad Gawan wrote poems in Persian language. Riyaz-ul-Insha, Manazir-ul-insha are his works.
- A new dialect called "Dakhini urdu " became popular during this time.
- The famous sufi saint of Gulbarga, Khwaja Bande Nawaz Gesu Daraj wrote in this language.

Architecture:

- They followed Indo-Islamic style of architecture with some improvisation. Local materials were used to construct the buildings.
- The architecture was highly influenced by Persian architecture.
- Some features of this style are
- Tall minarets
- Strong arches
- Huge domes
- Spacious Hazaras
- Crescent moon at the top of the building

Q 25) :

Ans) [B] : 2 only

Exp) Targetshots

Public debt is the total amount borrowed by the government of a country. In the Indian context, public debt includes the total liabilities of the Union government that have to be paid from the Consolidated Fund of India.

The Union government broadly classifies its liabilities into two broad categories. The debt contracted against the Consolidated Fund of India is defined as public debt and includes all other funds received outside Consolidated Fund of India under Article 266 (2) of the Constitution, where the government merely acts as a banker or custodian. The second type of liabilities is called public account.

Sources of Public Debt are listed as:

- Dated government securities or G-secs.
- Treasury Bills or T-bills
- External Assistance
- Short term borrowings
- Public Debt definition by Union Government

The Union government describes those of its liabilities as public debt, which are contracted against the Consolidated Fund of India. This is as per Article 292 of the Constitution.

Q 26) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

Australia has listed koalas as endangered species.

TargetUPSC: Koalas as Endangered Species: Australia

Why in News?

Recently, Australia has officially classified koalas as 'endangered'.

Classification as Endangered:

- Australia's Koala population has been on the road to extinction for over two decades now. The number of Koalas in NSW (New South Wales) declined by between 33% and 61% since 2001.
- But despite several demands by animal rights groups and conservationists, the government has been accused of doing little to protect the species. Koalas were classified as "vulnerable" only in 2012.
- During the catastrophic 2019 bushfires in Australia, now known as the 'Black Summer', an

estimated 60,000 koalas were impacted, with vast swathes of their habitat being blackened and rendered unliveable.

- Another major threat is the spread of chlamydia, a sexually transmitted disease known to cause blindness and cysts in the koalas reproductive tract.

Significance:

- The Endangered status of the koala means they and their forest homes should be provided with greater protection under Australia's national environmental law.

What are the Key Things about Koalas?

About:

- Koala is (*Phascolarctos cinereus*) an arboreal (lives in trees) marsupial.
- A marsupial is born in a very incomplete state. They are minute, hairless and with hind limbs only partially formed. Around 2/3rd of them live in Australia. The other third live mostly in South America.
- Instead of the placenta, the mother's milk nourishes the young and allows it to grow and develop.
- They share a number of characteristics with wombats, who are their closest living relatives, including a backward-facing pouch.

Habitat:

- The typical habitat for Koalas is open eucalypt woodlands, and the leaves of these trees make up most of their diet. In terms of societal behavior, Koalas are asocial animals and typically emotional bonding is seen only between mothers and dependent offspring.
- They are endemic to Australia.
- Due to the low nutrient levels of the Eucalyptus leaves they feed on, the koala can sleep up to 18 hours each day.

IUCN status:

- Vulnerable

Threats:

- Habitat destruction, climate change & severe weather (Droughts, extreme temperatures).

Q 27) :

Ans) : It is combination of DNA and polyethylene glycol, which can both receive and

Exp) Targetshots

Chemists use DNA to build the world's tiniest antenna.

Nano Antenna

- The nano antenna works like a two-way radio that can both receive and transmit radio waves.
- A team of researchers at the University of Montreal have developed a nanoantenna made of DNA (nucleic acid) and polyethylene glycol (PEG) to study changes in the structure of protein molecules.
- These fluorescent nanoantenna offer a distinct advantage over the fluorescent dyes that are ubiquitously used in biotechnology.
- The latter 'display a low affinity for proteins', while these nanoantennae are able to detect even the most minute of changes.
- The dye in the nanoantenna has an affinity to a specific region of a protein, which is

contingent on the structure and chemistry of the protein.

- The antenna also performed well when used for examining enzyme kinetics i.e. the speed at which a reaction progresses in the presence of an enzyme.
- It also remained stable at higher temperatures.

Q 28) :

Ans) [A] : 1 & 2 only

Exp) Statement 1 & 2 are correct:

The Centre has banned the import of drones with some exceptions. Centre's new rules for import of drones

- The import of any drones either in completely built-up (CBU), completely knocked down (CKD) /semi-knocked down (SKD) forms have been banned, with the exception of drones imported "for the purposes of defence, security and research and development".
- Anyone looking to import drones under the exemptions will be required to obtain clearances.
- The move is aimed at giving a boost to the domestic manufacturing of drones which is seen as a sector that is set to witness rapid growth this decade.

Who can still import drones?

- Government entities, educational institutions and government recognized R&D entities will be allowed to import drones in CBU, SKD and CKD form after they acquire import authorization from the Directorate General of Foreign Trade which would be provided after consultation with the relevant ministry.
- Drone manufacturers seeking to import drones for R&D will also be able to import drones through this route.
- The Centre has, however, clarified that the ban does not apply to the import of drone components.

TargetUPSC: Import Ban on Drones

The Government has banned the import of drones barring for R&D, defense, and security purposes.

Why in news?

- To promote Make-in-India drones.
- Before this order, the import of drones was "restricted" and needed prior clearance of the Directorate General of Civil Aviation (DGCA) and an import license from DGFT.

India's sources of Imports

- For its defense needs, India imports from Israel and the US.
- Consumer drones such as those used for wedding photography come from China and drones for light shows also come from China apart from Russia.

Why need drones?

- Indian drone manufacturers and service providers arrange drones for a variety of use cases such as survey and mapping, security and surveillance, inspection, construction progress monitoring, and drone delivery.

What does the order say?

- The Directorate General of Foreign Trade (DGFT) issued an order prohibiting with immediate effect the import of drones in Completely-Built-Up (CBU), Semi-knocked-down (SKD), or Completely-Knocked-down (CKD) forms.

- Import of drones by government entities, educational institutions recognized by the Central or State governments, government-recognized R&D entities, and drone manufacturers for R&D purposes as well as for defense and security purposes will be allowed.
- For this, there has to be an import authorization obtained from the DGFT.
- The import of drone components is "free", implying that no permission is needed from the DGFT allowing local manufacturers to import parts like diodes, chips, motors, lithium-ion batteries, etc.

Steps taken to promote indigenous drone manufacturing

- In August last year, the Government brought out liberalized Drone Rules, 2021 which reduced the number of forms to be filled to seek authorization from 25 to five.
- They also dispensed with the need for security clearance before any registration or issuance of the license.
- R&D entities too have been provided blanket exemption from all kinds of permissions, and restrictions on foreign-owned companies registered in India have also been removed.
- The Government has also announced a production-linked incentive scheme for drones and drone components with the aim to make India a "global drone hub by 2030".
- Foreign manufacturers will be encouraged to set up assembly lines in India.

Why such a blanket ban?

- Most drone manufacturers in India assemble imported components in India, and there is less manufacturing.
- The import ban will ensure that an Indian manufacturer has control of the IP, design, and software which gives him or her a total understanding and control of the product.
- Over a period of time, this can enable further indigenization.

Possible repercussions of the ban

- The ban is likely to hurt those who use drones for photography and videography for weddings and events.
- These drones primarily come from China because they are cheaper and easy to use and India still has a lot of catching up to do in manufacturing them.

Q 29) :

Ans) [D] : Neither 1 nor 2

Exp) All Statements are incorrect

Government creates post of Maritime Security Advisor; Vice Admiral Ashok Kumar takes Charge as the National Maritime Security Coordinator (NMSC). As the NMSC, Vice Admiral Kumar will be entrusted with the responsibility of coordinating between the various ministries and agencies related to maritime matters.

National Maritime Security Advisor (NMSA)

The post of maritime coordinator was proposed by the Group of Ministers formed after the Kargil conflict.

- The need was felt after the 26/11 Mumbai terror attacks post which the significance of the maritime security including those involving the scattered Indian Island territories was realized.
- The Cabinet Committee on Security cleared the post of NMSC in November 2021.
- The post of the NMSC is the second to the Military Advisor's post created to bring in inputs related to military matters.
- The post of Military Advisor was created in 2011 with Lt Gen Anil Chauhan holding the

charge at present.

- The NSCS is headed by the NSA who is also the secretary to the apex National Security Council headed by the Prime Minister.
- India has a coastline of 7516.6 kilometers which includes 1382 islands spread out.
- India's Exclusive Economic Zone is spread out in 2.3 million square kilometers.

Q 30) :

Ans) [B] : 2 only

Exp) Statement 2 is correct:

Union Minister for Social Justice & Empowerment Dr. virendra Kumar launches a Scheme for Economic Empowerment of DNTs (SEED).

Scheme for Economic Empowerment of DNTs (SEED)

- Under the scheme, the government seeks to provide free coaching to students for civil services examinations, competitive exams for admission to professional courses; health insurance; livelihood support and housing. - It has been formulated for families having income from all sources of Rs.2.50 lakh or less per annum and not availing any such benefits from similar Scheme of Centre Government or the State Government.
- The Scheme will be implemented through a portal, developed by the Department of Social Justice & Empowerment.
- Post verification, the funds will be transferred directly to the beneficiaries in their account.
- The other implementing agencies are the Ministry of Rural Development, the National Rural Livelihood Mission (NRLM), and the National Health Authority (NHA).
- De-Notified Tribes (DNTs)
- The term 'De-notified Tribes' stands for all those communities which were once notified under the Criminal Tribes Acts, enforced by the British Raj between 1871 and 1947.
- These Acts were repealed after Independence in 1952, and these communities were "De-Notified".

TargetUPSC: Scheme for Economic Empowerment of DNTs (SEED)

In News

- The Minister of Social Justice and Empowerment launched the Scheme for Economic Empowerment of DNTs (SEED) for the welfare of Denotified, Nomadic and Semi Nomadic Communities.

The major component of the SEED scheme are:

- Educational empowerment- Free coaching to students from these communities for Civil Services, entry to professional courses like medicine, engineering, MBA, etc.
- Health Insurance through PMJAY of National Health Authority.
- Livelihoods to support income generation, and
- Housing (through PMAY/IAY)

About De-notified, Nomadic and Semi-Nomadic Tribes

- The term 'De-notified Tribes' stands for all those communities which were once notified under the Criminal Tribes Acts, enforced by the British Raj between 1871 and 1947.
- These Acts were repealed by the Independent Indian Government in 1952.
- The Denotified and Nomadic communities have diverse ideological patterns, culture, political and social lifestyle, customs and traditions.
- The social and cultural characteristics of nomadic communities are closely related to their economic activities.

- They are engaged in various occupations such as transport, key-making, salt trading, entertaining - acrobats, dancers, snake charmers, jugglers - and pastoralists.

Issues

- They are the most neglected, marginalized and economically and socially deprived communities.
- Most of them have been living a life of destitution for generations and continue to do so with an uncertain and gloomy future.
- These communities never had access to private land or homeownership.

Government's Initiatives

- The Government of India constituted the first commission initially in October 2003 for Denotified, Nomadic and Semi Nomadic tribes.
- Since this commission could not function properly due to some constraints, in March 2005, the Renke Commission was constituted to complete its mandate.
- The Ministry of Social Justice & Empowerment decided in February 2014 to constitute a National Commission for Denotified, Nomadic and Semi Nomadic Tribes for three years.
- This commission gave its report in December 2017.
- Based on the National Commission's recommendations, the Ministry of Social Justice and Empowerment has constituted the Development and Welfare Board for Denotified, Nomadic and Semi-Nomadic Communities (DWBDNCs) in 2019.

Q 31) :

Ans) [B] : 2 only

Exp) Statement 1 is Correct

- A formal impeachment is not required for the removal of Vice-President from the office. He can be removed by a resolution passed by a majority of all the then members of the Rajya Sabha and agreed to by the Lok Sabha.
- But, no such resolution can be moved unless at least 14 days' advance notice has been given.
- Notably, no ground has been mentioned in the Constitution for his removal.

TargetUPSC: Vice-President of India

- Constitutional Provisions: The Office of the Vice-President of India is mentioned in Part V of the Constitution of India under Chapter I (Executive).
- Article 63 of the Indian Constitution mentions the post of Vice-President.
- The Constitutional Articles from 63-73 deal with the qualifications, election and removal of the Vice-President of India.
- Constitutional Status: The Vice-President of India is the second-highest constitutional office in the country.
- Present Vice-President: Muppavarapu Venkaiah Naidu is the current Vice President of India and the Chairman of the Rajya Sabha.

Term of Vice-President Office

- Vice President holds the position for five years from the date he enters the office of Vice-President.
- Vacancy:
 - End of term: Vacancy is created when his five years term ends.
 - By way of Resignation: The Vice-President of India can resign before five years by handing over his resignation to the President.
 - By Way of Removal: Vice President can be removed by the Parliament.

- On his death
- Invalidity of His Election: A vacancy is also created when his election is declared void by the Supreme Court of India.
- Filling of Vacancy:
 - An election to fill a vacancy caused by the expiration of the term of office of the Vice-President shall be completed before the expiration of the term.
 - An election to fill a vacancy in the office of Vice-President occurring by reason of his death, resignation or removal, or otherwise shall be held as soon as possible after the occurrence of the vacancy,
 - The person elected to fill the vacancy shall, subject to the provisions of article 67, be entitled to hold office for the full term of five years from the date on which he enters upon his office.

Removal of Vice-President of India

- Article 67 of the Constitution talks about the terms of office of the Vice President and the procedure to remove him/her from the Office by the Parliament.
- Removal Process: A Vice-President may be removed from his office by a resolution of the Council of States passed by a majority of all the then members of the Council (Rajya Sabha).
- This resolution to remove the Vice President must be agreed to by the House of the People (Lok Sabha);
- Pre-Condition: No resolution for the removal of the Vice president shall be moved unless at least fourteen days' notice has been given of the intention to move the resolution;
- A Vice-President shall, notwithstanding the expiration of his term, continue to hold office until his successor enters upon his office.

Articles wrt Vice President

Article 63: There shall be a Vice President of India

Article 64: The Vice-President shall be ex-officio Chairman of the Council of States and shall not hold any other office of profit

Article 65: The Vice-President to act as President or to discharge his functions during casual vacancies in the office, or during the absence, of President

Article 66: The Vice-President shall be elected by the members of an electoral college consisting of the members of both Houses of Parliament. The Vice-President shall not be a member of either House of Parliament or of a House of the Legislature of any State.

Article 67: The Vice-President shall hold office for a term of five years from the date of his appointment.

Article 68: An election to fill a vacancy created because of the completion of the term of office of Vice-President shall be completed before the expiry of the term. The election to fill a vacancy created because of the death, resignation or removal of Vice-President shall be held as soon as possible.

Article 69: Every Vice-President shall make an Oath or Affirmation on entering upon his office before the President, or some person appointed in that behalf by him

Article 70: Discharge of President's functions in other contingencies

Article 71: Matters relating to, or connected with, the election of a president or vice-president

Q 32) :

Ans) [D] : 1, 2, 3 & 4

Exp) Targetshots

The tropical rainforest biome has four main characteristics: very high annual rainfall, high average temperatures, nutrient-poor soil, and high levels of biodiversity (species richness).

The soil is nutrient poor because of the heavy rain that leaches the top layer of the soil

frequently. Temperature is high because they are largely found in equatorial regions and species richness is high due to abundance of the range of biotic and abiotic factors expressed in the ecosystem.

Q 33) :

Ans) [B] : 2 & 3 only

Exp) Targetshots

The Radhakrishnan Commission - In 1948, the Government of India appointed a Commission under the Chairmanship of Dr. Radhakrishnan to report on university education in the country and suggest improvements.

The important recommendations of the report, submitted in August, 1949, were as follows:

1. Twelve years of pre-university educational course.
2. The working days at the university should not be less than 180 in the year, exclusive of examination days. These working days should be divided into 3 terms each of 11 weeks' duration.
3. Higher education to have 3 main objectives: General Education; Liberal Education; and Occupational Education.

The first of these was to be specially emphasised, for its importance has not been adequately recognised so far. More attention should be paid to subjects, such as Agriculture, Commerce, Education, Engineering and Technology, Law and Medicine. The existing engineering and technical institutes should be looked upon as national assets and steps taken to improve them.

4. A university degree should not be considered as essential for the administrative services.
5. As 3 years are required to qualify for the first degree, it is not desirable that the work during the period should be judged by a single examination. As far as possible, examinations should be held subject-wise at different stages.
6. The examination standards should be raised and made uniform in all the universities, and university education placed on the 'Concurrent List'.
7. The scales of pay of the university teachers should be raised.
8. A University Grants Commission should be set up to look after university education in the country.

Q 34) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

Earlier this year, the Andhra Pradesh government banned a 100-year-old play named 'Chintamani Padya Natakam'.

Chintamani Padya Natakam

- It is a stage play penned by social reformer, writer and poet Kallakuri Narayana Rao about 100 years ago.
- In the play, the writer explains how people neglect their families by falling prey to certain social evils.
- It was aimed to create awareness on the Devadasi system and how the flesh trade was ruining many families at that particular period.
- The play is named after the main character, Chintamani, a woman born into a family involved in the flesh trade.
- The play focuses on how she attained salvation after repentance.
- Subbi Shetty, a character in the play, loses his wealth to Chintamani and his character is

utilised in a way that engages the audience.

Why it got banned?

- Began as a social sermon, this play has been increasingly going vulgar.
- Subbi Shetty, who resembles a person of a transgender community, is used to portray the social group in a bad way.
- Obscene dialogues are added to the play in the name of creativity.

Q 35) :

Ans) [D] : Neither 1 nor 2

Exp) Statement 1 is incorrect: Capital Indexed Bonds are bonds, the principal of which is linked to an accepted index of inflation with a view to protecting the Principal amount of the investors from inflation.

Statement 2 is incorrect: Inflation Indexed Bonds (IIBs) are bonds wherein both coupon flows and Principal amounts are protected against inflation

TargetUPSC

Inflation-Indexed Bonds

- Inflation Indexed Bonds (IIB) provide a continuous return to investors regardless of the amount of inflation in the economy.
- The real coupon interest rate on IIBs is fixed, but the nominal principal value is adjusted for inflation.
- Adjusted principal = [(inflation index at a given point of time) divided by (inflation index at the time of deposit) multiplied by (principal amount)]
- Interest being paid = [Adjusted principal multiplied by coupon rate]
- On the modified principal value, periodic coupon payments will be issued. In this way, both the principal and the coupon payment will be protected from inflation.
- When the bond matures, the adjusted principal or face value, whichever is greater, will be paid.
- IIBs are classified as government securities (G-Sec) and hence qualify for repo transactions, as well as SLR status (i.e., they are eligible to be kept as part of Statutory Liquidity Ratio requirements of banks).

Salient Features of Inflation index bonds

- Inflation-indexed bonds were announced in the 2013 budget.
- Anyone can invest in these bonds, however, they are distributed in such a way that institutional investors (such as LICs and mutual funds) receive 80% of the bonds and retail investors receive 20%.
- These bonds are auctioned directly by the RBI. The government receives this money.
- Minimum and maximum investment amounts are 10,000 and 25 lakhs, respectively.
- These bonds can only be redeemed after ten years, or else a penalty will be imposed.
- These bonds can be traded in the secondary market (through the BSE, NSE, and other stock exchanges), however, if they are sold in the secondary market and profit is made, capital gains tax is to be paid.

Purpose of IIBs

- The primary goal of issuing IIBs is to preserve the poor and middle classes' savings against inflation.
- Another motivation is to encourage household savers to invest in financial assets other than

gold. The growing Current Account Deficit (CAD), which is being fueled by greater gold imports, is causing considerable concern.

- IIBs assist the small investor in protecting even the principal amount against inflation, in addition to obtaining the investment's yield, which is dependent on the current inflation rate.
- It's also predicted to enhance domestic savings and reverse the savings-to-GDP ratio's downward trend.

Q 36) :

Ans) [B] : 2 only

Exp) Statement 2 is incorrect: PM to participate in the high-level segment of One Ocean Summit.

One Ocean Summit

- One Ocean Summit is being organized by France from 9-11 February, in Brest, France, in cooperation with the United Nations and the World Bank.
- The objective of the Summit is to mobilize the international community to take tangible action towards preserving and supporting healthy and sustainable ocean ecosystems.
- The high-level segment of the Summit will also be addressed by several Heads of States and Governments including Germany, the United Kingdom, South Korea, Japan, Canada, among others.
- Several important initiatives will be launched on this occasion in favor of marine ecosystem protection and sustainable fisheries, intended to fight pollution, in particular from plastics, respond to the impacts of climate change, as well as advocate for improved governance of the oceans.

TargetUPSC: One Ocean Summit

Why in News?

Recently, the Prime Minister addressed the high-level segment of the One Ocean Summit.

- The summit was organised by France in Brest, France in cooperation with the United Nations and the World Bank.
- The summit was addressed by various other Heads of State and Governments from countries like Germany, the United Kingdom, South Korea, Japan, Canada among others.

What is the Importance of Oceans?

- The ocean covers more than 70% of the surface of our planet, yet too often remains on the sidelines of major European and international events.
- The ocean is a regulator of major environmental balances, and climate in particular, a provider of resources, an important enabler of trade, and an essential link between countries and human communities.
- However, it is now seriously threatened by numerous pressures, such as the effects of climate change, pollution or the overexploitation of marine resources.
- In an effort to mobilise the international community and take tangible action to mitigate such pressures on the ocean, France has decided to organise a One Planet Summit dedicated to the ocean.

What is One Ocean Summit?

- The goal of the One Ocean Summit is to raise the collective level of ambition of the international community on marine issues.
- Commitments will be made towards combating illegal fishing, decarbonising shipping and reducing plastic pollution.

- Will also focus on efforts to improve governance of the high seas and coordinating international scientific research.

What was India's Stand at the Summit?

- India has always been a maritime civilization. India's ancient scriptures and literature talk about the gifts of the oceans including marine life.
- India's security and prosperity are linked to oceans. India's "Indo-Pacific Oceans Initiative" contains marine resources as a key pillar.
- India supports the French initiative of a "High Ambition Coalition on Biodiversity Beyond National Jurisdiction".
- The coalition gathers parties which are committed, at the highest political level, to achieve an ambitious outcome of the ongoing negotiations on a Treaty of the High Seas ("the implementing agreement on Biodiversity Beyond National Jurisdiction"), under the auspices of the United Nations.
- The "BBNJ Treaty", also known as the "Treaty of the High Seas", is an international agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, currently under negotiation at the United Nations.
- This new instrument is being developed within the framework of the United Convention on the Law of the Sea (UNCLOS), the main international agreement governing human activities at sea.
- India is committed to eliminating single-use plastic. India recently undertook a nation-wide awareness campaign to clean plastic and other waste from coastal areas.
- Three hundred thousand young people collected almost 13 tons of plastic waste.
- India will be happy to join France in launching a global initiative on single use plastics.
- Recently, the Ministry Of Environment Forest And Climate Change has notified the Plastic Waste Management Amendment Rules, 2021 which prohibit specific single-use plastic items which have "low utility and high littering potential" by 2022.
- India has also directed its Navy to contribute 100 ship-days this year to cleaning plastic waste from the seas.

Are there any Other Global initiatives to Protect Oceans?

- United Nations Ocean Conference: The 2017 UN's Ocean Conference sought to mobilise action for the conservation and sustainable use of the oceans, seas and marine resources.
- Next conference is scheduled to be held in 2022.
- Decade of Ocean Science for Sustainable Development: The UN has proclaimed a Decade of Ocean Science for Sustainable Development (2021-2030) to support efforts to reverse the cycle of decline in ocean health and gather ocean stakeholders worldwide behind a common framework that will ensure ocean science can fully support countries in creating improved conditions for sustainable development of the Ocean.
- World Oceans Day: June 8th is World Oceans Day, the United Nations day for celebrating the role of the oceans in our everyday life and inspiring action to protect the ocean and sustainably use marine resources.
- India- Norway Ocean Dialogue: In 2019, the Indian and Norwegian governments agreed to work more closely on oceans by signing a MoU and establishing the India-Norway Ocean Dialogue.
- India's Indo-Pacific Oceans Initiative (IPOI): It is an open, non-treaty based initiative for countries to work together for cooperative and collaborative solutions to common challenges in the region.
- IPOI draws on existing regional architecture and mechanisms to focus on seven pillars: Maritime Security, Maritime Ecology, Maritime Resources, Capacity Building and Resource

Sharing, Disaster Risk Reduction and Management Science, Technology and Academic Cooperation and Trade Connectivity and Maritime Transport.

- GloLitter Partnerships Project: It is launched by the International Maritime Organization (IMO) and the Food and Agriculture Organization of the UNs (FAO) and initial funding from the Government of Norway. It is aimed to prevent and reduce marine plastic litter from shipping and fisheries.

Q 37) :

Ans) [B] : 2 only

Exp) Targetshots

The three private telecom service providers, Bharti Airtel, Reliance Jio Infocomm, and Vodafone Idea, have been working with telecom equipment makers such as Ericsson and Nokia, and conducting 5G trials at test sites in metro cities.

5G Technology

- It is the next generation of mobile broadband that will eventually replace the 4G LTE connection.
- It operates in the millimeter wave spectrum of 30-300 GHz which have the advantage of sending large amounts of data at very high speeds.

The Spectrums

- It operates in 3 bands, namely low, mid and high frequency spectrum.
- Low Band Spectrum
 - While the low-band spectrum has shown great promise in terms of coverage, the maximum Internet speed is limited to 100 Mbps (megabits per second).
 - This means that while telcos can use and install it for commercial cellphone users who may not have specific demands for very high speed Internet, the low-band spectrum may not be optimal for specialised needs of industries.
- Mid Band Spectrum
 - The mid-band spectrum offers higher speeds than low-band, but has limitations in terms of coverage area and penetration of signals.
 - Telcos and companies that have taken the lead on 5G have indicated this band may be used by industries and specialised factory units for building captive networks.
- High Band Spectrum
 - High-band offers the highest speed among the three, but has extremely limited coverage and signal penetration strength.
 - Speeds in this spectrum have been tested to be as high as 20 Gbps (gigabits per second), while in most cases, the maximum Internet data speed in 4G has been recorded at 1 Gbps.

Benefits of 5G Technology

- Users will be able to stream videos with multiple camera angles during sports matches or even play immersive video games using VR headsets or other accessories.
- This next-generation telecom network will also enable a mesh of connected Internet of Things (IoT)-enabled devices and services with zerofail rate, as in the case of connected cars.
- 5G could also spawn high-speed mobile broadband connectivity to replace existing broadband services, especially in locations where these services are constrained, provided there isn't a huge price differential.

Q 38) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

- The Rashtrakuta rulers supported the prominent religions of the day in the customary soul of religious resilience.
- The Rashtrakutas constructed surely understood Jain temples at areas, for example, Lokapura in Bagalkot locale and their reliable feudatory, the Western Ganga Dynasty, assembled Jain landmarks at Shravanabelagola and Kambadahalli. Lord Amoghavarsha I was a follower of the Jain acharya Jinasena.
- Lord Dantidurga performed the Hiranyagarbha (stallion penance) and the Sanjan and Cambay plates of King Govinda IV notice Brahmins performing such ceremonies as Rajasuya, Vajapeya and Asvamedha.
- The Jain author Adikavi Pampa, broadly viewed as a standout amongst the most persuasive Kannada scholars, got to be well known for Adipurana (941 AD). It is the life history of the first Jain tirthankara Rishabhadeva.

TargetUPSC: Rashtrakutas

Sources:

- Ellora and samugarh inscription.
- S Altekar has written book "Rashtrakuta and their times"

Political history:

- The Rashtrakutas were originally known to be the feudatories of the Western Chalukyas of Vatapi.
- They ruled from Manyakheta in Karnataka.
- Dhantidurga was the founder of Rashtrakuta dynasty, he defeated Chalukyas of Badami.
- Dhantidurga was succeeded by Krishna 1. He constructed Kailasa temple in Ellora.

He defeated Gangas of Mysore.

- Krishna was succeeded by Govinda 2 followed by DHRUVA
- Dhruva was greatest in Rashtrakuta dynasty, during his reign Rashtrakuta power reached its Zenith.
- He defeated Pallavas, Eastern Chalukyas, Palas and Pratiharas.
- By defeating Vatsaraja of Pratihara and Dharmapala of pala dynasty he conquered Kannauj
- He was the first Deccan king to control Kannauj.
- Govinda III succeeded Dhruva. Following his father's legacy, Govinda III also waged war against all the adjacent kingdoms (Pallava, Ganga, Pala, Pratihara) and was victorious.
- During his reign Rashtrakuta empire extended from Himalayas in north to Kanyakumari in south and Saurashtra in the west to West Bengal in the east. Almost whole of India came under the influence of Rashtrakutas.
- His titles: Jaggattunga, Srivallabha, Tribhuvanadhavala.
- Amoghavarsha: Govinda III was succeeded by his son Amoghavarsha (814-880 CE)
- Amoghavarsha was a patron of literature and he patronised the famous Digambara acharya Jinasena, Sanskrit grammarian Sakatayana and the mathematician Mahaviracharya.
- His cultural achievements are greater than his military achievements.
- He constructed Manyakheta city and made it as his capital.
- Amoghavarsha was himself a great poet and his Kavirajamarga is the earliest Kannada work on poetics.
- Abu Sulaiman, the Arab traveler visited his capital in 851 CE. He says Rashtrakuta empire is one of the four great empires of the world.
- His titles: Nrupatunga, Veeranarayan etc.
- Krishna III was the last greatest in Rashtrakuta dynasty.

- He defeated Parantaka Chola in battle of Takkolam.
- Successors of Krishna III were too weak to save kingdom from its decline.
- Kakra II was defeated by Tailapadeva.
- Tailapadeva started rule of kalyani chalukyas.

Religion:

- Rashtrakuta rulers had great quality of religious tolerance.
- The worship of Shiva and Vishnu was popular during the Rashtrakuta reign. The famous rock-cut Shiva temple at Ellora was built by Krishna I.
- Jainism was patronized by later rulers like Amoghavarsha. He was also staunch devotee of Kolhapur Mahalaxmi.
- Buddhism had declined and its only important centre was at Kanheri.

Literature:

- The Rashtrakuta rulers were great patrons of learning. Kannada and Sanskrit literature made great progress during their reign.
- The three gems of ancient Kannada literature -Pampa, Ranna, Ponna were patronised by Rashtrakuta kings. They wrote following books in Kannada
- Pampa- Adipurana, Vikramarjuna Vijaya
- Ranna- Gadhayudha
- Ponna- Shantipurana
- Amoghavarsha wrote Kavirajamarga, first book on poetics in Kannada (few claim that this was originally written by court poet Srivijaya).
- Mahaveeracharya, a mathematician, wrote Ganithasarasangraha in Sanskrit.
- Halayudha wrote Kavirahasya in Sanskrit.
- Overall, Kannada language received great patronage and golden age in this era.

Art and Architecture:

- The Rashtrakutas made splendid contributions to Indian art.
- They built structural temple, cave temple and Basadis.
- Ellora, Ajanta and Elephanta are centres of their art.

Q 39) :

Ans) [B] : 2 only

Exp) Targetshots

The Khoisans have been protesting near the president's office for the past three years for recognition of the community and their language among other things.

Khoisan Tribes

- The Khoisans are known to be the first people to inhabit South Africa.
- The tribal group is made up of two different communities who practised similar cultures and spoke the same languages - the Khoikhoi, who were nomadic farmers, and San, who were hunter-gatherers.
- The Khoisans are known to be the first people to come in contact with the Dutch settlers in South Africa in the 17th century.
- As the Dutch began to take over land in the country, Khoisans were enslaved or killed and hence their population diminished over the years.
- The community was derogated by the European settlers with names like Bushmen and Hottentots.
- According to a research paper by Shula Marks, 'Khoisan Resistance to the Dutch in the

Seventeenth and Eighteenth Centuries', the Khoisans were called uneducated, "of inferior intellect and culture", "thievish and not to be trusted" and unassimilable.

- In 2009, The Independent reported on a study of "121 distinct populations" of Africans that found that they all descended from only 14 populations.

- The scientists, after studying the genetic variation among the DNA of more than 3,000 Africans for over a decade, found that the San were the most genetically diverse group which means that the San were the oldest population of humans in South Africa and on Earth.

Q 40) :

Ans) [B] : 2 only

Exp) Statement 2 is correct: National Natural Resource Management System (NNRMS)

- The Scheme "National Natural Resources Management System (NNRMS)" of the Ministry of Environment, Forest and Climate Change, is a Central Sector Scheme.

- The prime objective of NNRMS scheme is utilization of Remote Sensing Technology for Inventorization, Assessment and Monitoring of the country's natural resources.

- NNRMS activities are co-ordinated at the National level by the Planning Committee of NNRMS (PC-NNRMS) which frames guidelines for implementation of the systems and oversees the progress of remote sensing applications for natural resources management in the country.

TargetUPSC: National Natural Resources Management System (NNRMS)

Objective: Utilization of Remote Sensing Technology for Inventorization, Assessment and Monitoring of the country's natural resources.

- Development of knowledge based decision tool to simulate mechanism of vegetation change due to climatic change in Western Himalayan Ecoregion

- Monitoring of Snow and Glaciers of Himalayan Region

- Desertification Status Mapping of India

- Soil and Water quality appraisal in the Salt Affected Land Forms of Nagapattinam District, Tamil Nadu using Remote Sensing (RS) and Geographic Information System (GIS) techniques

- Application of Remote Sensing for Integrated Land use, Water and Energy Management in Rural Areas: Exploring Energy Plantation Opportunities, Public Systems Group

- Land use dynamics and its impact on microelements, structure, composition and diversity of Achanakumar - Amarkantak Biosphere Reserve using satellite remote sensing and GIS techniques

- Natural Resources Assessment of selected Eco-Tourism sites of Gujarat and its associated environments using remote sensing and GIS

Q 41) :

Ans) [D] : 1 & 3 only

Exp) Statement 1 is incorrect: The judges of the Supreme Court are appointed by the President. The chief justice is appointed by the President after consultation with such judges of the Supreme Court and high courts as he deems necessary. In 2015, the Supreme Court has declared both the 99th Constitutional Amendment Act of 2014 as well as the National Judicial Appointments Commission Act of 2014 as unconstitutional and void. By established convention, the senior most judge of the Supreme Court is appointed as the chief justice of India as.

Statement 2 is correct: The other judges are appointed by President after consultation with the chief justice and such other judges of the Supreme Court and the High Courts as he deems

necessary. The consultation with the chief justice is obligatory in the case of appointment of a judge other than Chief justice.

Statement 3 is incorrect: In the Third Judges case (1998), the Court opined that the consultation process to be adopted by the Chief justice of India requires 'consultation of plurality judges'. The sole opinion of the chief justice of India does not constitute the consultation process. He should consult a collegium of four senior most judges of the Supreme Court.

TargetUPSC: Collegium System for the Appointment of Judges

Why in News?

Recently, the Supreme Court (SC) Collegium, led by Chief Justice of India (CJI) has recommended to the government nine names for appointment as SC judges.

- The Collegium has for the first time, in one single resolution, recommended three women judges.
- It has thus sent a strong signal in favour of representation of women in the highest judiciary.

Collegium System:

- It is the system of appointment and transfer of judges that has evolved through judgments of the SC, and not by an Act of Parliament or by a provision of the Constitution.
- Evolution of the System:
 - First Judges Case (1981):
 - It declared that the "primacy" of the CJIs recommendation on judicial appointments and transfers can be refused for "cogent reasons."
 - The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.
 - Second Judges Case (1993):
 - SC introduced the Collegium system, holding that "consultation" really meant "concurrence".
 - It added that it was not the CJI's individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.
 - Third Judges Case (1998):
 - SC on President's reference (Article 143) expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues.
 - The SC collegium is headed by the CJI and comprises four other senior most judges of the court.
 - A HC collegium is led by its Chief Justice and four other senior most judges of that court.
- Names recommended for appointment by a HC collegium reaches the government only after approval by the CJI and the SC collegium.
- Judges of the higher judiciary are appointed only through the collegium system and the government has a role only after names have been decided by the collegium.
- The government's role is limited to getting an inquiry conducted by the Intelligence Bureau (IB) if a lawyer is to be elevated as a judge in a High Court or the Supreme Court.
- Intelligence Bureau (IB): It is a reputed and established intelligence agency. It is authoritatively controlled by the Ministry of Home Affairs.
- It can also raise objections and seek clarifications regarding the collegium's choices, but if the collegium reiterates the same names, the government is bound, under Constitution Bench judgments, to appoint them as judges.

Procedure for Various Judicial Appointments:

- For CJI:

- The President of India appoints the CJI and the other SC judges.
- As far as the CJI is concerned, the outgoing CJI recommends his successor.
- In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s.
- For SC Judges:
- For other judges of the SC, the proposal is initiated by the CJI.
- The CJI consults the rest of the Collegium members, as well as the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
- The consultees must record their opinions in writing and it should form part of the file.
- The Collegium sends the recommendation to the Law Minister, who forwards it to the Prime Minister to advise the President.
- For Chief Justice of High Courts:
- The Chief Justice of the High Court is appointed as per the policy of having Chief Justices from outside the respective States.
- The Collegium takes the call on the elevation.
- High Court judges are recommended by a Collegium comprising the CJI and two senior-most judges.
- The proposal, however, is initiated by the outgoing Chief Justice of the High Court concerned in consultation with two senior-most colleagues.
- The recommendation is sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.

Q 42) :

Ans) [B] : 2 only

Exp) Targetshots

The earth receives almost all of its energy from the sun. The earth in turn radiates back to space the energy received from the sun. As a result, the earth neither warms up nor does it get cooled over a period of time.

Q 43) :

Ans) [C] : Both 1 & 2

Exp) Statement 2 is correct:

Congress Socialist Party - The Meerut Thesis of the CSP published in 1935, opined that the task was to 'wean the anti-imperialist elements in the Congress away from its present bourgeois leadership and to bring them under the leadership of revolutionary socialism.'

Formed in 1934 as Congress Socialist Party (SP), with its own constitution, membership, discipline and ideology, it remained within the Congress Party till March 1948. Their disassociation as a protest against the Congress's move towards the right and its growing authoritarian tendencies was announced at a meeting in Nashik in 1948.

In September 1952, the CSP merged with the Kisan Mazdoor Praja Party (KMPP) to form a new party - Praja Socialist Party (PSP).

TargetUPSC: Rise of Congress Socialist Party : 1934 Onwards

Congress Socialist Party, or (CSP), was a left-wing group within the Congress. It was formed with Acharya Narendra Deva as President and Jay Prakash Narayan as General Secretary in 1934.

The rise of this party was due to the increased left influence in the Indian National Congress. By 1935, one third of the Congress members were Congress Socialists. These leaders rejected the idea of Gandhi (which they saw as anti-rational). Though, they remained active in the

workers and peasants movement, they rejected the sectarian attitude of the Communist Party of India.

They were influenced by Marxism-Leninism. The members ranged from the advocates of arms struggle to nonviolent resistance. The ideal of this party was decentralized socialism in which a substantial share in the economic power of co-operatives, trade unions, independent farmers, and local authorities.

Here are some important observations for your examinations.

- J P Narayan was lodged in the Nasik Jail in 1932 for civil disobedience against British rule. Here he met with Ram Manohar Lohia, Minoo Masani, Achyut Patwardhan, Ashok Mehta, Yusuf Desai and other national leaders.
- After his release in 1934, JP Narayan convened a meeting in Patna which founded the Bihar Congress Socialist Party with Narayan as general secretary and Acharya Narendra Deva as president.
- On October 23-23, 1934, another conference was held in Bombay where they formed an all India level "Congress Socialist Party" with Narayan as general secretary and Masani as joint secretary and Acharya Narendra Deva as president.
- The greeting "Comrade" was used in the new party.
- Masani mobilized the party in Bombay, Kamaladevi Chattopadhyaya and Puroshottam Trikamdas organized the party in other parts of Maharashtra.
- The CSP was not separate from the Congress. Its constitution defined that the members were all required to be members of the Indian National Congress. Members of communal organizations or political organizations, whose goals were incompatible with the ones of CSP, were barred from CSP membership.
- Many communists joined the CSP, it adopted Marxism in 1936. They had a conference on the sidelines of the Faizpur Conference and then propounded a doctrine that was aimed to transform the Indian National Congress into an anti-imperialist front.

Thus, emergence of the CSP had a long lasting impact on the politics of the Congress for many years to come.

Q 44) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct Causes of Mughal's Decline

The decline of Mughal Empire was not sudden but gradual process of fused administrative action. The following were the main causes of decline:

- The Vastness of the Empire: It was not possible to rule over area without any cooperative federalism. Hence, the Empire began to sink due to its own reason.
- Centralized Administration: The vast Empire cannot be rule without decentralization and their coordination.
- Responsibility of Aurangzeb: His religious policy, Rajput Policy, and Deccan Policy led disappointments to his subjects who made way of disintegration.
- Wars of Succession: Prolong war of succession fractured the administrative unit of Mughal's.
- Weakness of the Nobility: Mughal's noble were well known for their loyalty but war of successor degenerated the nobility.

TargetUPSC: Causes of Mughals Decline

The period of the Great Mughals, which began in 1526 with Babur's accession to the throne, ended with the death of Aurangzeb in 1707. Aurangzeb's death marked the end of an era in

Indian history. When Aurangzeb died, the empire of the Mughals was the largest in India. Yet, within about fifty years of his death, the Mughal Empire disintegrated.

The reasons responsible for the decline of the Mughal empire in India are:

- Wars of Succession:
- The Mughals did not follow any law of succession like the law of primogeniture.
- Consequently, each time a ruler died, a war of succession between the brothers for the throne started.
- This weakened the Mughal Empire, especially after Aurangzeb.
- The nobles, by siding with one contender or the other, increased their own power.
- Aurangzeb's Policies:
- Aurangzeb failed to realize that the vast Mughal Empire depended on the willing support of the people.
- Aurangzeb's religious orthodoxy and his policy towards the Hindus damaged the stability of the Mughal empire
- He lost the support of the Rajputs who had contributed greatly to the strength of the Empire.
- They had acted as pillars of support, but Aurangzeb's policy turned them to bitter foes.
- The wars with the Sikhs, the Marathas, the Jats and the Rajputs had drained the resources of the Mughal Empire.
- Weak Successors of Aurangzeb:
- The successors of Aurangzeb were weak and became victims of the intrigues and conspiracies of the faction-ridden nobles.
- They were inefficient generals and incapable of suppressing revolts.
- The absence of a strong ruler, an efficient bureaucracy and a capable army had made the Mughal Empire weak.
- After Bahadur Shah's reign came a long list of weak, worthless and luxury-loving Kings.
- Empty Treasury:
- Shah Jahan's zeal for construction had depleted the treasury.
- Aurangzeb's long wars in the south had further drained the exchequer.
- Invasions:
- Foreign invasions sapped the remaining strength of the Mughals and hastened the process of disintegration.
- The invasions of Nadir Shah and Ahmad Shah Abdali resulted in further drainage of wealth.
- These invasions shook the very stability of the empire.
- Size of the Empire and Challenge from Regional Powers:
- The Mughal Empire had become too large to be controlled by any ruler from one centre i.e. Delhi.
- The Great Mughals were efficient and exercised control over ministers and army, but the later Mughals were poor administrators.
- As a result, the distant provinces became independent. The rise of independent states led to the disintegration of the Mughal Empire.
- Rise of independent states in the 18th century:
- With the decline of the Mughal Empire a number of provinces seceded from the empire and several independent states came into existence.
- Hyderabad:
- The State of Hyderabad was founded by Qamar-ud-din Siddiqi, who was appointed Viceroy of the Deccan, with the title of Nizam-ul- Mulk, by Emperor Farrukhsiyar in 1712.
- He established a virtually independent state but returned to Delhi during the reign of Emperor Mohammad Shah.
- In 1724, he was reappointed Viceroy of the Deccan with the title of Asaf Jah.

- Bengal:
- Bengal in the 18th century comprised Bengal, Bihar and Orissa.
- Murshid Quli Khan was the Diwan of Bengal under Aurangzeb.
- Farrukhsiyar appointed him Subedar (governor) of Bengal in 1717.
- Awadh:
- The subah of Awadh comprised Benaras and some districts near Allahabad.
- Saadat Khan Burhan-ul-Mulk was appointed Governor of Awadh by the Mughal Emperor.
- But he soon became independent.
- Deterioration of land relations
- Shahjahan and Aurangzeb opted for jagirs and Paibaqi instead of paying directly from state treasury to the officials.
- Jagirs refer to temporary allotment of lands to officials for their services which may be according to the satisfaction of the Emperor.
- Paibaqi refers to revenue from reserved lands which were sent to the central treasury.
- There was a constant clash of interest between the nobles and zamindars.
- Rise of the Marathas
- Marathas consolidated their position in Western India
- They started making plans for a greater Maharashtra empire.

Q 45) :

Ans) [A] : 1 & 2 only

Exp) Statement 1 is correct: The rural banks had the legislative backing of the Regional Rural Banks Act 1976. This act allowed the government to set up banks from time to time wherever it considered necessary.

Statement 2 is correct: Regional Rural Banks are supervised by National Bank for Agriculture and Rural Development (NABARD).

Statement 3 is correct: They have been created with a view to serve primarily the rural areas of India with basic banking and financial services. RRBs may have branches set up for urban operations and their area of operation may include urban areas too.

TargetUPSC: Recapitalisation of RRBs

Why in News

Recently, the Centre has approved a Rs1,340-crore recapitalisation plan for Regional Rural Banks (RRBs).

- The move is crucial to ensure liquidity in rural areas during the lockdown due to the COVID-19 crisis.

Regional Rural Banks

- RRBs are financial institutions which ensure adequate credit for agriculture and other rural sectors.
- Regional Rural Banks were set up on the basis of the recommendations of the Narasimham Working Group (1975), and after the legislation of the Regional Rural Banks Act, 1976.
- The first Regional Rural Bank "Prathama Grameen Bank" was set up on 2nd October, 1975.
- Stakeholders: The equity of a regional rural bank is held by the Central Government, concerned State Government and the Sponsor Bank in the proportion of 50:15:35.
- The RRBs combine the characteristics of a cooperative in terms of the familiarity of the rural problems and a commercial bank in terms of its professionalism and ability to mobilise financial resources.

- Each RRB operates within the local limits as notified by the Government.
- The main objectives of RRBs are
 - To provide credit and other facilities to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs in rural areas.
 - To check the outflow of rural deposits to urban areas and reduce regional imbalances and increase rural employment generation.
- The RRBs are required to provide 75% of their total credit as priority sector lending.

Recapitalisation

- This recapitalisation (a strategy of enhancing the financial base of an entity to overcome a rough financial situation) would improve their capital-to-risk weighted assets ratio (CRAR) and strengthen these institutions for providing credit in rural areas.
- The step will help those RRBs which are unable to maintain a minimum CRAR of 9%, as per the regulatory norms prescribed by the RBI.
- The release of the Rs. 670 crore as the central share funds will be contingent upon the release of the proportionate share by the sponsor banks.
- The recapitalisation process of RRBs was approved by the cabinet in 2011 based on the recommendations of a committee set up under the Chairmanship of K C Chakrabarty.
- The National Bank for Agriculture and Rural Development (NABARD) identifies those RRBs, which require recapitalisation assistance to maintain the mandatory CRAR of 9% based on the CRAR position of RRBs, as on 31st March of every year.
- The scheme for recapitalization of RRBs was extended up to 2019-20 in a phased manner post 2011.

Capital-to-risk Weighted Assets Ratio

- CRAR or Capital Adequacy Ratio (CAR) is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.
- It is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.
- The Basel III norms stipulated a capital to risk weighted assets of 8%.
- However, as per RBI norms, Indian scheduled commercial banks are required to maintain a CRAR of 9%.

Q 46) :

Ans) [D] : 1, 2, 3 & 4 only

Exp) Targetshots

Agriculture can contribute to Global warming in following ways:

Agricultural soil management

These are nitrous oxide emissions and account for about 60 percent of the total emissions from the agricultural sector. Nitrous oxide is produced naturally in soils through the microbial processes of nitrification and de-nitrification. During nitrification, ammonium (NH₄) produces nitrates (NO₃). During de-nitrification, nitrates (NO₃) are reduced to nitrogen gas (N₂). An intermediate step in both of these processes is the creation of nitrous oxide (N₂O).

Enteric fermentation

Methane is produced as part of the normal digestive processes in animals. During digestion, microbes in the animal's digestive system ferment feed. This process, called enteric fermentation, produces methane as a by-product which can be emitted by the exhaling and belching of the animal.

Manure management

Methane is produced by the anaerobic (without oxygen) decomposition of manure. When manure is handled as a solid or deposited naturally on grassland, it decomposes aerobically (with oxygen) and creates little methane emissions.

Burning of Stubble

This is practiced mostly in developing countries. After the harvest the stubble of the crops are burnt and ash is left on the ground to provide nutrients to the soil. This process has become a major contributor to GHGs in recent times.

Others:

A variety of other sources produce greenhouse gas emissions. For example, most of the world's rice and all of U.S. rice is grown on flooded fields, which prevents atmospheric oxygen from entering soil. When rice is grown with no oxygen, the soil organic matter decomposes under anaerobic conditions and produces methane that escapes into the atmosphere.

Q 47) :

Ans) : A collective of one or more types of microorganisms that can grow on many di

Exp) Targetshots

Bacterial biofilms use a developmental patterning mechanism seen in plants and animals.

Biofilm

- Clusters of bacteria that live together in communities known as biofilms.
- These types of microorganisms can grow on many different surfaces.
- Microorganisms that form biofilms include bacteria, fungi and protists.
- One common example of a biofilm is dental plaque, a slimy buildup of bacteria that forms on the surfaces of teeth.
- Pond scum is another example and they are also found inhabiting sewer pipes, kitchen counters.
- Biofilms have been found growing on minerals and metals.
- They have been found underwater, underground and above the ground.
- They can grow on plant tissues and animal tissues, and on implanted medical devices such as catheters and pacemakers.
- Each of these distinct surfaces has a common defining feature: they are wet.
- Biofilms thrive upon moist or wet surfaces. Biofilm formation
- Biofilm formation begins when free-floating microorganisms such as bacteria come in contact with an appropriate surface and begin to put down roots.
- This first step of attachment occurs when the microorganisms produce a gooey substance known as an extracellular polymeric substance (EPS).
- An EPS is a network of sugars, proteins and nucleic acids (such as DNA).
- It enables the microorganisms in a biofilm to stick together.
- Attachment is followed by a period of growth.
- Further layers of microorganisms and EPS build upon the first layers.
- Ultimately, they create a bulbous and complex 3D structure.

Q 48) :

Ans) [B] : 1 & 2 only

Exp) Statement 1 & 2 are correct Panchayats (Extensions to Schedule Areas) Act (PESA), 1996

- Panchayats (Extension to Scheduled Areas) Act, 1996 is a law enacted by Government of

India to cover the "Scheduled Areas", which are not covered in the 73rd Constitutional amendment.

- This particular act extends the provisions of Part IX to the Scheduled Areas of the country. PESA brought powers further down to the Gram Sabha level.
- It is now applicable in the Fifth Schedule areas, which deals with the administration of the districts dominated by the tribal communities, and is in force in 10 states of the country.
- These states include Jharkhand, Chhattisgarh, Odisha, Andhra Pradesh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan and Telangana.
- Under the PESA, the Gram Sabha has
 1. The power to prohibit/regulate/restrict the sale and consumption of any intoxicant.
 2. The power to prevent alienation of land and to restore any unlawfully alienated land of a scheduled tribe.
 3. The power to manage village markets.
 4. The power to exercise control over money lending to scheduled tribes.

TargetUPSC: PESA Act

Why in News

Recently, the Chhattisgarh government has formulated draft rules under Panchayat Extension to Scheduled Areas (PESA) Act, 1996, terming it the Chhattisgarh Panchayat Provisions (Extension of the Scheduled) Rules, 2021.

- Tribals in Chhattisgarh have been demanding the enactment of PESA rules for some time, as it would give them more power over their resources.
- The bill envisages instituting devaluation of power, and strengthening the gram sabhas at the village level.
- Six states (Himachal Pradesh, Andhra Pradesh, Telangana, Rajasthan, Gujarat, Maharashtra) have formed the PESA laws, and Chhattisgarh would become the seventh state if the rules are enacted.

About PESA Act 1996:

- Background: To promote local self-governance in rural India, the 73rd constitutional amendment was made in 1992.
- Through this amendment, a three-tier Panchayati Raj Institution was made into a law.
- However, its application to the scheduled and tribal areas under Article 243(M) was restricted.
- After the Bhuria Committee recommendations in 1995, PESA Act 1996 came into existence for ensuring tribal self-rule for people living in scheduled areas of India.
- Role of State Government: PESA, was enacted by the Centre to ensure self-governance through gram sabhas (village assemblies) for people living in scheduled areas.
- State governments were required to amend their respective Panchayat Raj Acts without making any law that would be inconsistent with the mandate of PESA.
- Objective: It legally recognises the right of tribal communities, residents of the scheduled areas, to govern themselves through their own systems of self-government.
- It acknowledges their traditional rights over natural resources.

Importance of Gram Sabha in PESA Act:

- Democratic Decentralisation: PESA empowers gram sabhas to play a key role in approving development plans and controlling all social sectors. This includes management of :
 - Resources over jal, jangal, zameen (water, forest and land)
 - Minor forest produce

- Human resources: Processes and personnel who implement policies
- Managing local markets
- Preventing land alienation
- Regulating intoxicants among other things
- Preserving Identity: The powers of gram sabhas include maintenance of cultural identity and tradition, control over schemes affecting the tribals, and control over natural resources within the area of a village.
- Conflict Resolution: The PESA Act thus enables gram sabhas to maintain a safety net over their rights and surroundings against external or internal conflicts.
- Public Watchdog: The gram sabha would have the powers to monitor and prohibit the manufacturing, transport, sale and consumption of intoxicants within their village limits.

India's Tribal Policy

- In India, most of the tribes are collectively identified under Article 342 (1&2) as "Scheduled Tribes".
- Their right to self-determination is guaranteed by Part X: The Scheduled and Tribal Areas - Article 244: Administration of Scheduled Areas and Tribal Areas.
- That is, Fifth and Sixth Schedules of the Indian Constitution.
- The Provisions of the Panchayats (Extension to Scheduled Areas) Act, 1996 or PESA.
- The Tribal Panchsheel Policy
- Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 concerns the rights of forest-dwelling communities to land and other resources.

Q 49) :

Ans) [C] : 1 & 2 only

Exp) Statement 1 & 2 are correct Samudrayan Project

- India's First Manned Ocean Mission.
- India joins the elite club of nations such as USA, Russia, Japan, France and China to have such underwater vehicles for carrying out subsea activities.
- It comes under the 'Ministry of Earth Science'.
- It helps in carrying out deep ocean exploration of the non-living resources such as polymetallic manganese nodules, gas hydrates, hydro-thermal sulphides and cobalt crusts, located at a depth between 1000 and 5500 meters.
- It will be a part of the 'Deep Ocean Mission'.
- The preliminary design of the manned submersible MATSYA 6000 is completed and realization of vehicle is started with various organization including ISRO, IITM and DRDO.
- The indigenously developed vehicle is capable of crawling on the sea bed at a depth of six km for 72 hours.
- The manned submersible is designed to carry three persons in 2.1 meter diameter Titanium Alloy Personnel Sphere with an operational endurance of 12h and systems to support emergency endurance up to 96h.
- Pressure compensated batteries and propulsion system, control and communication systems and Launching and Recovery System.
- System design, concept of operation, subcomponents functionality and integrity, emergency rescue, failure mode analysis are reviewed and certified as per the rules of 'International Association of Classification and Certification Society' for man-rated usage of manned submersible at a depth of 6000 meters.
- The recent Fendouzhe manned submersible developed by China in 2020 has touched ~11000m water depths.

TargetUPSC: Mission Samudrayan

Union Minister of Earth Sciences has launched India's First Manned Ocean Mission Samudrayan at Chennai.

Mission Samudrayan

- The Samudrayan project has been undertaken by the National Institute of Ocean Technology (NIOT).
- It will be a part of the Rs 6,000 crore Deep Ocean Mission.
- It is designed to carry 3 persons in 2.1meter diameter Titanium Alloy Personnel Sphere with an operational endurance of 12hrs and systems to support emergency endurance up to 96hrs.
- It could work at a depth between 1000 and 5500 meters.

Objectives

- Samudrayan shall facilitate carrying out deep ocean exploration of the non-living resources such as polymetallic manganese nodules, gas hydrates, hydro-thermal sulphides and cobalt crusts.
- The mission would carry out subsea activities such as high-resolution bathymetry, biodiversity assessment, geo-scientific observation, search activities, salvage operation and engineering support.

Focus areas of the Project

- Ocean climate change advisory services
- Underwater vehicles
- Underwater robotics-related technologies
- Deep-sea mining: Exploitation of polymetallic nodules

Components of the mission

Some of the critical subsystems of the manned submersibles are:

- Development of Titanium Alloy Personnel Sphere, Human support and safety system in enclosed space, low density buoyancy modules, Ballast and Trim System
- Pressure compensated batteries and propulsion system, control and communication systems and Launching and Recovery System.

Progress till date

- The preliminary design of the manned submersible MATSYA 6000 is completed.
- Sea trials of 500 metre rated shallow water version of the manned submersible are expected to take place in the last quarter of 2022 and the MATSYA 6000.
- The deep-water manned submersible will be ready for trials by the second quarter of 2024.

Why need such mission?

- This manned submersible mission provides a feel of direct physical presence for researchers and has better intervention capability.
- With the advancing subsea technologies, the recent Fendouzhe manned submersible developed by China in 2020 has touched ~11000m water depths.
- With Samudrayan, India joins the elite club of nations such as USA, Russia, Japan, France and China to have such underwater vehicles for carrying out subsea activities.

India and International Seabed Authority (ISA)

- The ISA, an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea, allots the 'area' for deep-sea mining.

- India was the first country to receive the status of a 'Pioneer Investor' in 1987 and was given an area of about 1.5 lakh sqkm in the Central Indian Ocean Basin (CIOB) for nodule exploration.
- In 2002, India signed a contract with the ISA, and after a complete resource analysis of the seabed, India surrendered 50%, and the country retained an area of 75,000 sqkm.
- Further studies have helped narrow the mining area to 18,000 sqkm, the 'First Generation Mine-site'.

Q 50) :

Ans) [D] : Neither 1 nor 2

Exp) Statement 1 is incorrect: The strength of the Supreme Court of India, the highest judicial body in the country, is determined by the Parliament. Puisne judge refers to any judge of the court, apart from the chief justice.

Statement 2 is incorrect: At present, the Supreme Court consists of 34 judges (one chief justice and 33 puisne judges). In 2019, the centre notified an increase in the number of Supreme Court judges from 31 to 34, including the Chief Justice of India.

Q 51) :

Ans) [A] : 1 & 3 only

Exp) Statement 1 & 3 are correct

Delimitation Panel headed by Justice Prakash Desai proposed 6 additional Assembly seats for Jammu, 1 for Kashmir.

Delimitation Commission

- Delimitation literally means the act of fixing the boundaries of constituencies.
- Under Article 82 of the Constitution, Parliament enacts a Delimitation Act after every Census which establishes a delimitation commission.
- The main task of the commission is redrawing the boundaries of the various assembly and Lok Sabha constituencies to ensure an equitable population distribution.
- Delimitation commissions have been set up four times in the past under 'Delimitation Commission Acts' of 1952, 1962, 1972 and 2002.
- The constitution was amended to freeze the delimitation till 2026.
- These bodies are so powerful that its orders have the force of law and they cannot be challenged before any court.

Composition

- According to the Delimitation Commission Act, 2002, the Delimitation Commission will have three members:
- A serving or retired judge of the Supreme Court as the chairperson
- The Chief Election Commissioner or Election Commissioner nominated by the CEC
- The State Election Commissioner as ex-officio members.

Q 52) :

Ans) [B] : 1 & 3 only

Exp) Statements 1 & 3 are correct

- August 20, 2021 marks the centenary of the Malabar rebellion or the Moplah (Muslim) riots of 1921.
- Malabar rebellion had been an uprising of Muslim tenants (Moplahs) against local Hindu

landlords (Jenmis) and British rulers.

- The uprising, which began as part of the Khilafat Movement, took place in regions which are under the Malappuram district, Kerala.
- It was an armed revolt led by Variyamkunnath Kunjahammed Haji.
- It has been perceived as one of the 1st nationalist uprisings in southern India. It has even been described as a peasant revolt.
- In 1971, the Kerala government had included the participants of the rebellion in the category of freedom fighters.
- Impacts - The rebellion of Mappilas inspired by religious ideology and a conception of an alternative system of administration - Khilafat government - dealt a blow to the nationalist movement in Malabar.
- Fanaticism of rebels, foregrounded by the British, fostered communal rift and enmity towards the Congress.

TargetUPSC: Malabar Rebellion

What was Mapillah Revolt?

- About:
 - Fuelled by the fiery speeches by Muslim religious leaders and anti-british sentiments, the Mopillahs launched a violent rebellion. Numerous acts of violence were reported and a series of persecutions were committed both against the British and the Hindu landlords.
 - While there are some who call it a case of religious fanaticism, there are others who look at it as an instance of struggle against British authority, and then there are others who perceive the Malabar rebellion to be a peasant revolt against unfair practices of the landlords.
 - While historians continue to debate on the matter, the broad consensus on the episode notes it to have started off as a struggle against political power, which later took on a communal colour.
 - Most of the landlords were Namboodiri Brahmins while most of the tenants were Mapillah Muslims.
 - The riots led to the mass killings of over 10,000 Hindus, raping of women, forced religious conversions, destruction or damage of nearly 300 temples, loot and arson of properties worth crores of rupees and burning of houses belonging to the Hindus.
- Support:
 - In the initial stages, the movement had the support of Mahatma Gandhi and other Indian nationalist leaders, but as it turned violent they distanced themselves from it.
- Collapse:
 - By the end of 1921, the rebellion was crushed by the British who had raised a special battalion, the Malabar Special Force for the riot.
- Wagon Tragedy:
 - In November 1921, 67 Moplah prisoners were killed when they were being transported in a closed freight wagon from Tirur to the Central Prison in Podanur. They died of suffocation. This event is called the Wagon Tragedy.

What were the Reasons behind the Mapillah Revolt?

- Non-Cooperation & Khilafat Movement:
 - The trigger of the uprising came from the Non-Cooperation Movement launched by the Congress in 1920 along with the Khilafat agitation.
 - The anti-British sentiment fuelled by these agitations affected the Muslim Mapillahs.
- New Tenancy Laws:
 - After the death of Tipu Sultan in 1799 in the Fourth Anglo-Mysore War, Malabar had come under British authority as part of the Madras Presidency.

- The British had introduced new tenancy laws that tremendously favoured the landlords known as Janmis and instituted a far more exploitative system for peasants than before.
- The new laws deprived the peasants of all guaranteed rights to the land, share in the produce they earlier got and in effect rendered them landless.

Why in News?

Recently, the Indian Council for Historical Research (ICHR) has deferred its decision on a recommendation to remove the 1921 Malabar Rebellion (Moplah riots) martyrs from the list of India's freedom fighters.

- The recommendation also included the names Variamkunnaathu Kunhahamad Haji and Ali Musliyar.

Q 53) :

Ans) [C] : 3 & 4 only

Exp) Targetshots

Although Sher Shah Sur's rule lasted for five years, he organized a brilliant administrative system. The central government consisted of several departments. The king was assisted by four important ministers:

- Diwan-I-Wizarat = In charge/minister of revenue and finance.
- Diwan-I-Ariz= In charge/minister of Army.
- Diwan-I-Insha=In charge/minister of communication.
- Diwan-I-Rasalat= In charge/minister of foreign affairs.

Sher Shah's empire was divided into forty seven sarkars. Chief Shiqdar (law and order) and Chief Munsif (judge) were the two officers in charge of the administration in each sarkar. Each sarkar was divided into several parganas. Shiqdar (military officer), Amin (land revenue), Fotedar (treasurer) Karkuns(accountants) were in charge of the administration of each pargana.

There were also many administrative units called Iqtas. The land revenue administration was well organized under Sher Shah. Land survey was carefully done. All cultivable lands were classified into three classes - good, middle and bad. The state's share was one third of the average produce and it was paid in cash or crop. His revenue reforms increased the revenue of the state. Sher Shah introduced new silver coins called "Dam" and they were in circulation till 1835.

Sher Shah had also improved the communications by laying four important highways. They were:

- Sonargaon to Sind
- Agra to Burhampur
- Jodhpur to Chittor
- Lahore to Multan.

Rest houses were built on the highways for the convenience of the travelers. Police was efficiently reorganized and crime was less during his regime. The military administration was also efficiently reorganized and Sher Shah borrowed many ideas like the branding of horses from Alauddin Khalji.

Q 54) :

Ans) [C] : 3 & 5 only

Exp) Targetshots

Puppetry in India

- Four major types of puppetry art forms in India are marionettes, shadow puppets, rod puppets and glove puppets.
- Finger and fist puppets, humanettes and water puppets are also some of the popular forms of puppetry today.

Rod Puppets

- Putul Nach - West Bengal; Kathi Kandhe - Orissa; Yampuri - Orissa

Shadow Puppets

- Togalu Gombeyata - Karnataka; Tolpavakoothu - Kerala; Tholu Bommalata - Andhra Pradesh; Ravanachhaya - Orissa; Thol Bommalattam - Tamil Nadu; Chamadyache Bahulya - Maharashtra

Glove Puppets

- Pava koothu - Kerala; Sakhi Kundhei Nata - Orissa; Beni Putul - Bengal.

String Puppets

- Putal Nach - Assam; Kalasutri Bahulya - Maharashtra; Gopalila Kundhei - Orissa; Bommalattam - Tamil Nadu; Gombeyatta - Karnataka; Kathputli - Rajasthan.

Q 55) :

Ans) [A] : 1 only

Exp) Targetshots

Introducing competition and ensuring PSUs are run on business lines with no undue protection was the major objective of the industrial policy 1991.

TargetUPSC: India's Industrial Policy

Meaning

- Government action to influence the ownership & structure of the industry and its performance. It takes the form of paying subsidies or providing finance in other ways, or of regulation.
- It includes procedures, principles (i.e., the philosophy of a given economy), policies, rules and regulations, incentives and punishments, the tariff policy, the labour policy, government's attitude towards foreign capital, etc.

Objectives

The main objectives of the Industrial Policy of the Government in India are:

- to maintain a sustained growth in productivity;
- to enhance gainful employment;
- to achieve optimal utilisation of human resources;
- to attain international competitiveness; and
- to transform India into a major partner and player in the global arena.

Industrial Policies in India since Independence

- Industrial Policy Resolution of 1948- It defined the broad contours of the policy delineating the role of the State in industrial development both as an entrepreneur and authority.
- It made clear that India is going to have a Mixed Economic Model.
- It classified industries into four broad areas:
- Strategic Industries (Public Sector): It included three industries in which Central Government had monopoly. These included Arms and ammunition, Atomic energy and Rail transport.

- Basic/Key Industries (Public-cum-Private Sector): 6 industries viz. coal, iron & steel, aircraft manufacturing, ship-building, manufacture of telephone, telegraph & wireless apparatus, and mineral oil were designated as "Key Industries" or "Basic Industries".
- These industries were to be set-up by the Central Government.
- However, the existing private sector enterprises were allowed to continue.
- Important Industries (Controlled Private Sector): It included 18 industries including heavy chemicals, sugar, cotton textile & woollen industry, cement, paper, salt, machine tools, fertiliser, rubber, air and sea transport, motor, tractor, electricity etc.
- These industries continue to remain under private sector however, the central government, in consultation with the state government, had general control over them.
- Other Industries (Private and Cooperative Sector): All other industries which were not included in the above mentioned three categories were left open for the private sector.
- The Industries (Development and Regulation) Act was passed in 1951 to implement the Industrial Policy Resolution, 1948.
- Industrial Policy Statement of 1956 : Government revised its first Industrial Policy (i.e. the policy of 1948) through the Industrial Policy of 1956.
- It was regarded as the "Economic Constitution of India" or "The Bible of State Capitalism".
- The 1956 Policy emphasised the need to expand the public sector, to build up a large and growing cooperative sector and to encourage the separation of ownership and management in private industries and, above all, prevent the rise of private monopolies.
- It provided the basic framework for the government's policy in regard to industries till June 1991.
- IPR, 1956 classified industries into three categories
- Schedule A consisting of 17 industries was the exclusive responsibility of the State. Out of these 17 industries, four industries, namely arms and ammunition, atomic energy, railways and air transport had Central Government monopolies; new units in the remaining industries were developed by the State Governments.
- Schedule B, consisting of 12 industries, was open to both the private and public sectors; however, such industries were progressively State-owned.
- Schedule C- All the other industries not included in these two Schedules constituted the third category which was left open to the private sector. However, the State reserved the right to undertake any type of industrial production.
- The IPR 1956, stressed the importance of cottage and small scale industries for expanding employment opportunities and for wider decentralisation of economic power and activity
- The Resolution also called for efforts to maintain industrial peace; a fair share of the proceeds of production was to be given to the toiling mass in keeping with the avowed objectives of democratic socialism.
- Criticism: The IPR 1956 came in for sharp criticism from the private sector since this Resolution reduced the scope for the expansion of the private sector significantly.
- The sector was kept under state control through a system of licenses.

Industrial Licenses

- In order to open new industry or to expand production, obtaining a license from the government was a prerequisite.
- Opening new industries in economically backward areas was incentivised through easy licensing and subsidization of critical inputs like electricity and water. This was done to counter regional disparities that existed in the country.
- Licenses to increase production were issued only if the government was convinced that the economy required more of the goods.

- Industrial Policy Statement, 1977- In December 1977, the Janata Government announced its New Industrial Policy through a statement in the Parliament.
- The main thrust of this policy was the effective promotion of cottage and small industries widely dispersed in rural areas and small towns.
- In this policy the small sector was classified into three groups-cottage and household sector, tiny sector and small scale industries.
- The 1977 Industrial Policy prescribed different areas for large scale industrial sector- Basic industries, Capital goods industries, High technology industries and Other industries outside the list of reserved items for the small scale sector.
- The 1977 Industrial Policy restricted the scope of large business houses so that no unit of the same business group acquired a dominant and monopolistic position in the market.
- It put emphasis on reducing the occurrence of labour unrest. The Government encouraged the worker's participation in management from shop floor level to board level.
- Criticism: The industrial Policy 1977, was subjected to serious criticism as there was an absence of effective measures to curb the dominant position of large scale units and the policy did not envisage any socioeconomic transformation of the economy for curbing the role of big business houses and multinationals.
- Industrial Policy of 1980 sought to promote the concept of economic federation, to raise the efficiency of the public sector and to reverse the trend of industrial production of the past three years and reaffirmed its faith in the Monopolies and Restrictive Trade Practices (MRTP) Act and the Foreign Exchange Regulation Act (FERA).

New Industrial Policy During Economic Reforms of 1991

The long-awaited liberalised industrial policy was announced by the Government of India in 1991 in the midst of severe economic instability in the country. The objective of the policy was to raise efficiency and accelerate economic growth.

Features of New Industrial Policy

- De-reservation of Public sector: Sectors that were earlier exclusively reserved for public sector were reduced. However, pre-eminent place of public sector in 5 core areas like arms and ammunition, atomic energy, mineral oils, rail transport and mining was continued.
- Presently, only two sectors- Atomic Energy and Railway operations- are reserved exclusively for the public sector.
- De-licensing: Abolition of Industrial Licensing for all projects except for a short list of industries.
- There are only 4 industries at present related to security, strategic and environmental concerns, where an industrial license is currently required-
- Electronic aerospace and defence equipment
- Specified hazardous chemicals
- Industrial explosives
- Cigars and cigarettes of tobacco and manufactured tobacco substitutes
- Disinvestment of Public Sector: Government stakes in Public Sector Enterprises were reduced to enhance their efficiency and competitiveness.
- Liberalisation of Foreign Investment: This was the first Industrial policy in which foreign companies were allowed to have majority stake in India. In 47 high priority industries, upto 51% FDI was allowed. For export trading houses, FDI up to 74% was allowed.
- Today, there are numerous sectors in the economy where government allows 100% FDI.
- Foreign Technology Agreement: Automatic approvals for technology related agreements.
- MRTP Act was amended to remove the threshold limits of assets in respect of MRTP companies and dominant undertakings. MRTP Act was replaced by the Competition Act 2002.

Outcomes of New Industrial Policies

- The 1991 policy made 'Licence, Permit and Quota Raj' a thing of the past. It attempted to liberalise the economy by removing bureaucratic hurdles in industrial growth.
- Limited role of Public sector reduced the burden of the Government.
- The policy provided easier entry of multinational companies, privatisation, removal of asset limit on MRTP companies, liberal licensing.
- All this resulted in increased competition, that led to lower prices in many goods such as electronics prices. This brought domestic as well as foreign investment in almost every sector opened to private sector.
- The policy was followed by special efforts to increase exports. Concepts like Export Oriented Units, Export Processing Zones, Agri-Export Zones, Special Economic Zones and lately National Investment and Manufacturing Zones emerged. All these have benefitted the export sector of the country.

Q 56) :

Ans) [D] : None of the above

Exp) Targetshots

Darwin downplayed the role of female variation in other animal species, assuming they were rather uniform, and always made similar decisions.

How Victorian sexism influenced Darwin's theories

- Darwin proposed that many animal species carefully select their mates.
- He downplayed the role of female variation in other animal species, assuming they were rather uniform, and always made similar decisions. - And he thought there was enormous variation among the males who battled for female attention by showing off stunning ranges of skills and beauty.
- This maintained the focus on the dynamics of male dominance hierarchies, sexual ornamentation and variation as drivers of sexual selection, even if females sometimes did the choosing.

Complex choices

- When animals choose a partner, their appearance, sound and smell can all be accurate guides to the survival ability of the prospective mate. - For example, large antlers in deer are a good indicator of fighting ability, dominance and overall fitness.
- But many other traits can be chosen because they are otherwise conspicuous and attractive yet may be a poor guide to overall genetic quality, or even misleading.
- In some species of poeciliid fish, for example, male attractiveness is linked to genes that can reduce their survival.
- Females therefore face a dilemma: mate with a more attractive male and produce some highly attractive but otherwise less vigorous sons, or mate with a less attractive male to maximize the survival of those sons.
- Females may therefore select for traits in males that apparently have no other bearing upon their ability to survive.
- The peacock's tail is a handicap in most other aspects of its life - an impediment to flight and evading predators - save for the attraction of a female.
- Male species also choose
- It isn't always females who choose.
- In pipefishes, the males invest heavily by carrying the fertilized eggs until they hatch, and it is the females who compete with each other in order to secure the attentions of males.

Choice differs with respect to age

- Optimal mate choice is not the same for all individuals, or at all times in their development.
- For example, younger satin bowerbirds are frightened by the most vigorous male displays, while older females typically find these most attractive.
- And many fishes are sequential hermaphrodites, changing sex - and therefore mate choices - as they age.
- Female birds and mammals may choose to mate with multiple males, and their sperm can compete to fertilise one or more eggs within the reproductive tract.
- Female blue tits often mate with multiple males in order to ensure their protection and support - a somewhat manipulative strategy when paternity for the prospective fathers is uncertain.

Setbacks in Darwin's theory

- Darwin - like Albert Einstein, H.G. Wells and Edgar Allan Poe - married his first cousin, Emma Wedgwood.
- Ironically, he knew nothing of genetics and the mechanisms by which close relatives are more likely to have offspring with certain genetic diseases.
- Intriguingly, our closest relatives in the tree of life, the chimpanzees, naturally circumvent this problem, since females select mates that are more distantly related to them than the average male in the available pool.
- Darwin - possibly as a result of prevailing prudishness - placed little emphasis on mechanisms of sexual selection that operate after mating. - All this challenges Darwin's assumption that females are relatively passive and nonstrategic.
- Despite its omissions, however, Darwin's understanding was radically more advanced than anything that preceded it.
- Research since Darwin, therefore, reveals that mate choice is a far more complex process than he may have supposed, and is governed by variation in both sexes.

Q 57) :

Ans) [C] : Both 1 & 2

Exp) Targetshots

The concept of Web3, also called Web 3.0, used to describe a potential next phase of the internet, created quite a buzz in 2021.

Web3

- The model, a decentralized internet to be run on block chain technology, would be different from the versions in use, Web 1.0 and Web 2.0.
- In web3, users will have ownership stakes in platforms and applications unlike now where tech giants control the platform.

Web 1.0

- Web 1.0 is the world wide web or the internet that was invented in 1989. It became popular from 1993.
- The internet in the Web 1.0 days was mostly static web pages where users would go to a website and then read and interact with the static information.
- Even though there were e-commerce websites in the initial days it was still a closed environment and the users themselves could not create any content or post reviews on the internet.
- Web 1.0 lasted until 1999.

Web 2.0

- Web 2.0 started in some form in the late 1990s itself though 2004 was when most of its features were fully available.
- It is still the age of Web 2.0 now.
- The differentiating characteristic of Web 2.0 compared to Web1.0 is that users can create content.
- They can interact and contribute in the form of comments, registering likes, sharing and uploading their photos or videos and perform other such activities.
- Primarily, a social media kind of interaction is the differentiating trait of Web 2.0.

Concerns of Web 2.0

- In Web 2.0, most of the data in the internet and the internet traffic are owned or handled by very few behemoth companies.
- This has created issues related to data privacy, data security and abuse of such data.
- There is a sense of disappointment that the original purpose of the internet has been distorted.

Web 3.0

- Gavin Wood, founder of Ethereum, a block chain technology company, used the term Web3 first in 2014.

How Web3 addresses the problems of data monopoly?

- Web3 will deliver "decentralized and fair internet where users control their own data".
- Currently if a seller has to make a business to the buyer, both the buyer and seller need to be registered on a "shop" or "platform" like Amazon or Ebay or any such e-commerce portal.
- What this "platform" currently does is that it authenticates that the buyer and seller are genuine parties for the transaction.
- Web3 tries to remove the role of the "platform".
- For the buyer to be authenticated, the usual proofs aided by block chain technology will be used.
- The same goes for the seller.
- With block chain, the time and place of transaction are recorded permanently.
- Thus, Web3 enables peer to peer (seller to buyer) transaction by eliminating the role of the intermediary.
- The spirit of Web3 is Decentralized Autonomous Organization (DAO) which is that all the business rules and governing rules in any transaction are transparently available for anyone to see and software will be written conforming to these rules.
- Crypto-currency and block chain are technologies that follow the DAO principle.
- With DAO, there is no need for a central authority to authenticate or validate.

Will it take off?

- From a technology perspective, Web3 will require deviation from the current architecture where there is a front-end, middle layer and back-end.
- Web3's architecture will need backend solutions for handling block chain, persisting and indexing data in block chain, peer to peer communications and so forth.
- Similarly, the middle layer, also called the business rules layer, will need to include handling block chain-based backend.

Q 58) :

Ans) [A] : Mars may be just too small to hold on to large amounts of water

Exp) Targetshots

Mars

- Water is essential for life, on Earth and other planets but Mars has no liquid water on its surface now.
- New research from Washington University in St. Louis suggests a fundamental reason that, Mars may be just too small to hold on to large amounts of water.
- Mars was always doomed and headed towards deterioration.

Q 59) :

Ans) [B] : 2 only

Exp) Statement 2 is correct

Particulate Matter

- Particulate matter is the sum of all solid and liquid particles suspended in air many of which are hazardous.
- This complex mixture includes both organic and inorganic particles, such as dust, pollen, soot, smoke, and liquid droplets.
- These particles vary greatly in size, composition, and origin.
- It includes PM 10: Inhalable particles, with diameters that are generally 10 micrometres and smaller. PM 2.5: fine inhalable particles, with diameters that are generally 2.5 micrometres and smaller.
- Sources of PM: Some are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks or fires.

How are particles formed?

- Coarse particles are produced by the mechanical break-up of larger solid particles.
- The coarse fraction can include dust from roads, agricultural processes, uncovered soil or mining operations, as well as non-combustible materials released when burning fossil fuels.
- Pollen grains, mold spores, and plant and insect parts can also contribute to the coarse fraction.
- Evaporation of sea spray can produce large particles near coasts.
- Fine particles are largely formed from gases.

Q 60) :

Ans) [C] : Sir Syed Ahmed Khan

Exp) Option c is correct

Sir Syed Ahmad Khan

- He is an iconic social reformer and founder of the Aligarh Muslim University (AMU).
- He was born on 17th October 1817 in Delhi.
- When the war of independence broke out in 1857 Sir Syed was working as a chief judge Bijnaur and is said to have saved the lives of many women and children during the fighting.
- He started a movement in order to give respectable position to Muslims in society as they had in past, this movement is known as Aligarh Movement.

The main focus of the Aligarh movement was:

1. Loyalty to British Government.
2. Modern western education for the Muslims to compete with Hindus.
3. To keep away the Muslims from politics.

- In 1859, Sir Syed Ahmad Khan set up the first school for Muslims in Muradabad where English, Persian, Islamiyat, Arabic, Urdu were compulsory subjects.

- In 1875, Sir Syed established Mohammedan Anglo Oriental School at Aligarh.
- The main characteristic of this college was that it offered both Western and Eastern educations.
- He forbade the Muslims to join Congress since he knew that Hindus will never be of the same interests as that of Muslims.
- He put stress on acquiring modern and political education before getting into politics.
- He wrote a magazine "Rasala-e-Asbab-e-Baghawat-e-Hind to revive muslim relations with British Government.
- He also wrote "Loyal Muhammadans of India" a detailed article accounted for the services which were rendered by loyal Muslims to British Government.

Q 61) :

Ans) [A] : 1, 2 & 4 only

Exp) Statement 1, 2 & 4 is correct

Basic Information:

- The federal features of the Constitution of India are dual polity, division of powers, written Constitution, supremacy of Constitution, rigid Constitution, Independent Judiciary and Bicameralism .
- However, the Indian Constitution also contains number of unitary or non-federal features, viz., a strong Centre, single Constitution, single Citizenship , flexibility of Constitution, integrated judiciary, appointment of state Governors by the Centre, All-India Services , emergency provisions, no equality of state representation, integrated audit machinery, parliament's authority over state list, integrated election machinery and veto over state bills.

TargetUPSC: Unitary Features of Indian Consitution

It is indeed difficult to put the Indian Constitution in the category of federations, even though it had all the main ingredients of a federation.

It is, in fact, a new contrivance designed to meet the special requirements of Indian society. The framers of the Constitution have modified the true nature of Indian federalism by incorporating certain non-federal features in the Constitution as well. This has lent support to the contention that the Indian Constitution is federal in form but unitary in spirit.

(i) Single Citizenship:

The Indian federation is a dual polity with a single citizenship for the whole of India. There is no State citizenship. Every Indian has the same rights of citizenship, no matter in which State he resides.

(ii) A Strong Centre:

The result of the distribution of powers between the federation and the units is that the State Governments are governments of limited and enumerated powers. Though the Union Government is also a government of limited and enumerated powers, it has, under certain circumstances, power even over the State Governments and the residuary power over the whole territory.

(iii) Single Constitution for Union and States:

Indian Constitution embodies not only the Constitution of the Union but also those of the States. Furthermore, the States of the Indian Union have a uniform Constitution. The amending process both for the Constitution of the Union and the States is also the same.

(iv) Centre Can Change Name and Boundaries of States:

In India, the Centre has a right to change the boundaries of the States and to carve out one State out of the other. In fact, this has been done in India, not only once but several times. In the fifties, Andhra Pradesh was carved out of Madras State. Shortly thereafter, the States Reorganisation Commission was established and a chain of events unfolded. There is perhaps no State whose boundaries have not been changed at one stage or another. The right of the Centre to change the boundaries of the States is against the federal set-up.

(v) Single Unified Judiciary:

In India, the Supreme Court and the High Court's form a single integrated judicial system. They have jurisdiction over cases arising under the same laws, constitutional, civil and criminal. The civil and the criminal laws are codified and are applicable to the entire country. To ensure their uniformity, they are placed in the Concurrent List.

(vi) Unitary in Emergencies:

The Indian Constitution is designed to work as a federal government in normal times, but as a unitary government in times of emergency. Under the Constitution, the President of the Republic has been given emergency powers. An emergency can arise both in the political and financial fields.

(vii) Common All-India Services:

The Constitution has certain special provisions to ensure the uniformity of the administrative system and to maintain minimum common administrative standards without impairing the federal principle.

These include the creation of All-India Services, such as the Indian Administrative and Police Services and placing the members of these services in key administrative positions in the States.

(viii) Inequality of Representation in the Council of States:

There is bicameralism in India but in the Council of States, States have not been given equal representation. Here population system has been followed and bigger States have been given greater representation than the smaller ones.

(ix) Appointment of Governor by President: The Heads of the State-the Governor-are appointed by the President. They hold office during his pleasure. This enables the Union Government to exercise control over the State administration.

(x) Appointment of the High Court Judges by the President:

Appointments to the High Courts are made by the President, and the Judges of the High Courts can be transferred by the President from one High Court to another.

(xi) The Office of the Comptroller and Auditor-General:

The Comptroller and Auditor-General of India has an organisation managed by the officers of the Indian Audit and Account Services, a central service, who are concerned not only with the accounts and auditing of the Union Government but also those of the States.

(xii) Centralized Electoral Machinery:

The Election Commission, a body appointed by the President, is in charge of conducting elections not only to Parliament and to other elective offices of the Union, but also to those of the State Legislature.

(xiii) Flexible Constitution:

The Indian Constitution is not very rigid. Many parts of the Constitution can be easily amended.

(xiv) Special Powers of Council of State over State List:

The Parliament is also authorised by the Constitution to make laws on any subject mentioned in the State List, if the Council of States passes a resolution by a two-thirds majority declaring a particular subject or subjects to be of national importance.

Similarly, Parliament can pass laws on the items of State List, if it is deemed essential by the Government of India to honour an international obligation. In short, in India the Centre can encroach on the field reserved for the States as and when it feels necessary.

(xv) Control over State Laws:

Certain laws passed by the State Legislature cannot come into operation unless they have been reserved for the approval of the President of India. Thus, all the laws concerning the acquisition of property, all laws on Concurrent List which are contrary to the laws passed by the Parliament; and the laws concerning the sales-tax on essential commodities, etc. need the approval of the Central Government.

Moreover, the Governor of a State reserves the right to reserve any Bill passed by the State Legislature for the consideration of the President. The President may accord his approval to such a bill or may withhold his assent.

(xvi) Financial Dependence of States:

In a federation, as far as possible, States should be financially self-sufficient so that these enjoy maximum autonomy. But in India, the States depend on the Centre for all development. They have much less sources of income but many more needs of expenditure. This financial dependency has very much hindered the growth of States on federal lines.

The mode of formation of the Indian federation was quite different from that which led to the formation of a federal union of the American type. In India it was not the case of a number of sovereign and independent states entering into a voluntary agreement and setting up a federal state for the administration of certain affairs of general concern, keeping back with themselves the powers which they did not want to give to this new government.

The government of the country, till the India Act of 1935 was passed, was a centralised government and the process that was adopted under the India Act of 1935 was that of "creating autonomous units and combining them into a federation by one and the same Act".

The process for the establishment of a federation in India, therefore, has to be described as one of movement from the union to the units rather than from the units to the union.

The Act of 1935, however, cannot be described as having given to India a truly federal constitution. It has far too many restrictions imposed upon the provincial governments. When the British left India in 1947, they withdrew these powers and transferred their sovereign rights to the people of India to exercise them in accordance with a Constitution of their own choice.

If India has not been partitioned at the time it got its freedom, there would certainly have been far fewer features of centralisation in the Indian Constitution than we find today. A partition of the country, with the seceding part nurturing a grouse against it, and the uncertainties of the international situation, the emergence of two Super Powers struggling for supremacy over each other made it necessary for the Indian Constitution to make provisions for the centralization of power.

Q 62) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

To understand the differences in local climates of India, we need to understand the mechanism of the following three factors:

- (i) Distribution of air pressure and winds on the surface of the earth.
- (ii) Upper air circulation caused by factors controlling global weather and the inflow of different air masses and jet streams.
- (iii) Inflow of western cyclones generally known as disturbances during the winter season and tropical depressions during the south-west monsoon period into India, creating weather conditions favourable to rainfall.

Q 63) :**Ans) [D] : 1, 2 & 3****Exp) Targetshots**

Background: PM pays tributes eminent stalwarts of Constituent Assembly to mark 75 years of its historic first sitting.

Constituent Assembly of India

- The idea of a constituent assembly was put forward for the first time by MN Roy. In 1935, the Indian National Congress (INC), for the first time, officially called for a constituent assembly to frame a constitution for India.
- In 1938, J Nehru made this emphatic statement regarding the constitution- 'The constitution of free India must be framed, without outside interference, by a constituent assembly elected on the basis of adult franchise'.
- The demand for a constituent assembly was accepted for the first time by the British through their 'August offer' of 1940. Eventually, a constituent assembly was established under the provisions of the Cabinet Mission plan.

Composition

- It was constituted in 1946
- Some of the important aspects related to this are: Total strength of the assembly: 389; 296 seats for British India and 93 seats to princely states; 292 seats allocated for British India were to be from eleven governor's provinces and four from Chief Commissioner's provinces.
- Seats were allocated based in proportion to their respective population.
- Seats allocated to each British province were to be decided among the three principal communities- Muslims, Sikhs and general.
- Representatives of each community were to be elected by members of that community in the provincial legislative assembly and voting was to be by the method of proportional representation by means of single transferrable vote.
- Representatives of princely states were to be nominated by head of these princely states

Working of the Constituent assembly

- First meeting was held on December 9, 1946.
- Muslim league did not participate in the first meeting.
- Temporary president in the first meeting: Dr Sachchidanand Sinha.
- After elections were held- Dr Rajendra Prasad and HC Mukherjee were elected as the President and Vice-President of the Assembly respectively.
- Sir BN Rau was appointed as the constitutional advisor of the assembly.
- Once the Mountbatten plan was passed even members of Muslim league who were part of Indian Territory participated in the proceedings of the council.
- Members of princely states who had stayed away from the proceedings initially also

participated.

- Constituent assembly held 11 sessions over two years, 11 months and 18 days.
- Last session of the constituent assembly was held on January 24, 1950.

Objective Resolution

- It was moved by Nehru in December 1946
- It laid down the fundamentals and philosophy of the constitutional structure
- The resolution highlighted the following

objectives:

- Free India will be nothing but a republic
- The ideal of social, political and economic democracy would be guaranteed to all people
- The republic would grant Fundamental rights
- The state would safeguard the rights of the minorities and backward classes
- Constituent assembly acted as the temporary legislature until a new one was to be constituted. Some of the functions it performed at this stage were:

1. Ratification of India's membership of the commonwealth
2. It adopted the national flag
3. It adopted the national anthem
4. Adoption of National song
5. Electing Dr Rajendra Prasad as the first President of India

Q 64) :

Ans) [C] : 3 only

Exp) Statement 3 is correct

Bhimetka Caves

- Bhimbetka, which is located amid a thick forest in the natural rock shelters of Vindhya Range.
- Fossils of Dickinsonia, which is an extinct genus of basal animal, were also found at Bhimbetka, and hence, the history of living beings at the place dates back to at least 100,000 years.

Bhimbetka Paintings

- Nearly all figures in the paintings were monochromatic, that is, portrayed in a single colour.
- One style of figures contains a noticeable outline within which a colour was filled and in another widely-repeated style without an outline, the animal figures were created with a single stroke of a brush or some other tool by using the wash technique.
- Since the Bhimbetka paintings are monochromatic, like many other similar works across India, they appear two-dimensional or flat without any three-dimensionality.
- Many animals are shown static, which means that they are firmly standing on the ground and a few others are shown moving forward or taking a leap into the air; at times, they are shown chasing and attacking human beings forcefully.
- In the hunting scenes, humans are shown smaller in size than the animals like bovines.
- Even wild boars, which are invariably smaller than humans, are shown to be much larger than men who are hunting them.
- Some animal drawings have been classified by scholars as X-ray style works; for, the bodies of the animals are drawn with varied patterns of criss-cross lines.
- The lines on the body have been interpreted as representing the animal's internal parts, like bones, muscles and intestine.

- One hunting scene that shows about eight nude men chasing a bull is quite well known and frequently reproduced in books, essays and picture postcards relating to the rock art of Bhimbetka.
- The Bhimbetka paintings of the historic period also depict dancing scenes where groups of people are standing with their hands held together.

Q 65) :

Ans) [D] : 1 & 4 only

Exp) Targetshots

Capital receipts are loans taken by the government from the public, borrowings from foreign countries and institutes, and borrowings from the RBI. Recovery of loans given by the Centre to states and others is also included in capital receipts. In the balance sheet, capital receipts are mentioned in the liabilities section. The capital receipt has a nature of non-ecurrence. All capital receipts are tax-free, unless there is a proviso to tax it. Capital receipts can be both non-debt and debt receipts.

Non-debt receipts are those which do not incur any future repayment burden for the government. Almost 75 per cent of the total budget receipts are non-debt receipts.

Examples of non-debt capital receipts: Recovery of loans and advances, disinvestment, issue of bonus shares, etc.

Debt Receipts have to be repaid by the government. Around 25 per cent of government expenditure is financed through borrowing. A reduction in debt receipt (or borrowing) can be a big leap for the economy's financial health. Most of the capital receipts of the government are debt receipts.

Examples of debt capital receipts: Market loans, issuance of special securities to public-sector banks, issue of securities, short-term borrowings, treasury bills, securities against small savings, state provident funds, relief bonds, saving bonds, gold bonds, external debt, etc, are all example of debt capital receipts.

Q 66) :

Ans) [C] : 1 & 3 only

Exp) Statements 1 & 3 are correct Types of Evolution

Divergent Evolution

- The evolutionary pattern in which two species gradually become increasingly different.
- This type of evolution often occurs when closely related species diversify to new habitats.
- On a large scale, divergent evolution is responsible for the creation of the current diversity of life on earth from the first living cells.
- On a smaller scale, it is responsible for the evolution of humans and apes from a common primate ancestor.

Convergent Evolution

- Convergent evolution takes place when species of different ancestry begin to share analogous traits because of a shared environment or other selection pressure.
- For example, whales and fish have some similar characteristics since both had to evolve methods of moving through the same medium: water.

Parallel Evolution

- Parallel evolution occurs when two species evolve independently of each other, maintaining the same level of similarity.

- Parallel evolution usually occurs between unrelated species that do not occupy the same or similar niches in a given habitat.

Q 67) :

Ans) : The airborne DNAs of animals that are shed through their breath, saliva, fur

Exp) Targetshots

Two independent studies have found that the DNA floating in the air can boost biodiversity conservation efforts across the world.

e-DNA Technique

- Animals shed DNA through their breath, saliva, fur or faeces into the environment. These DNAs floating in the air.
- These airborne DNAs are called environmental DNA (e-DNA).
- Tracking animals through e-DNA isn't a new idea. Biologists have observed aquatic organisms by sequencing e-DNA from water samples.
- Similarly, the two teams filtered e-DNA from the air by using sensitive filters attached to vacuum pumps.
- After extracting DNA from the air, the teams made copies using polymerase chain reaction (PCR). The last step was DNA sequencing.
- They then compared the sequencing results with known sequences to identify the animal.
- These e-DNAs can be used to potentially identify and monitor terrestrial animals.
- Their findings could help understand the composition of animal communities and detect the spread of non-native species.
- But in its current form, the e-DNA technique cannot provide accurate data for population census. But it will in the future.

Q 68) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct Article 74

- There shall be a council of ministers with the Prime Minister at the head to aid and advise the President who shall, in the exercise of his functions, act in accordance with such advice.
- However, the President may require the council of ministers to reconsider such advice and the President shall act in accordance with the advice tendered after such reconsideration.
- The nature of advice tendered by ministers to the President cannot be enquired by any court.
- This provision emphasises the intimate and the confidential relationship between the President and the ministers.

TargetUPSC: Council of Ministers

Why in News?

Recently, the Prime Minister expanded and reshuffled his Council of Ministers (COM). The Prime Minister now has 77 ministers, nearly half of them new.

About:

- Article 74 of the Constitution deals with the status of the council of ministers while Article 75 deals with the appointment, tenure, responsibility, qualification, oath and salaries and allowances of the ministers.
- The COM consists of three categories of ministers, namely, cabinet ministers, ministers of state, and deputy ministers. At the top of all these ministers stands the Prime Minister.
- Cabinet Ministers: These head the important ministries of the Central government like home, defence, finance, external affairs and so forth.

- Cabinet is the chief policy formulating body of the Central government.
- Ministers of State: These can either be given independent charge of ministries/ departments or can be attached to cabinet ministers.
- Deputy Ministers: They are attached to the cabinet ministers or ministers of state and assist them in their administrative, political, and parliamentary duties.
- At times, the COM may also include a deputy prime minister. The deputy prime ministers are appointed mostly for political reasons.

Constitutional Provisions:

- Article 74 (COM to aid and advise President): The advice tendered by Ministers to the President shall not be inquired into in any court.
- The President may require the COM to reconsider such advice and the President shall act in accordance with the advice tendered after such reconsideration.
- Article 75 (Other Provisions as to Ministers): The PM shall be appointed by the President and the other Ministers shall be appointed by the President on the advice of the PM.
- The total number of ministers, including the Prime Minister, in the COM shall not exceed 15% of the total strength of the Lok Sabha.
- This provision was added by the 91st Amendment Act of 2003.
- A minister who is not a member of the Parliament (either house) for any period of six consecutive months shall cease to be a minister.
- Article 77 (Conduct of Business of the Government of India): The President shall make rules for the more convenient transaction of the business of the Government of India, and for the allocation among Ministers of the said business.
- Article 78 (Duties of Prime Minister): To communicate to the President all decisions of the COM relating to the administration of the affairs of the Union and proposals for legislation.
- Article 88 (Rights of Ministers as Respects the Houses): Every minister shall have the right to speak and take part in the proceedings of either House, any joint sitting of the Houses and any Committee of Parliament of which he may be named a member. But he shall not be entitled to vote.

Responsibility of Ministers:

- Collective Responsibility:
 - Article 75 clearly states that the COM is collectively responsible to the Lok Sabha. This means that all the ministers own joint responsibility to the Lok Sabha for all their acts of omission and commission.
- Individual Responsibility:
 - Article 75 also contains the principle of individual responsibility. It states that the ministers hold office during the pleasure of the President, which means that the President can remove a minister even at a time when the COM enjoys the confidence of the Lok Sabha.
 - However, the President removes a minister only on the advice of the Prime Minister.

Council of Ministers in States:

- The Council of Ministers in the states is constituted and functions in the same way as the Council of Ministers at the Centre (Article 163: COM to aid and advise Governor) and Article 164: Other Provisions as to Ministers).

Q 69) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

All the above statements are correct. Skewflation refers to skewedness of inflation in the

economy which is essentially rise in the prices in few sectors and fall in the others. Example, increase in the cost of living while the prices of assets (say housing) are falling. Hence it is sector specific.

It is different from stagflation which is phenomenon coupled with slow or stagnant economic growth with relatively high unemployment rate.

TargetUPSC: Skewflation

What is Skewflation?

- Skewflation is a type of inflation in which the prices of a single commodity or a set of commodities rise while the overall price level remains stable. It is a new term in economics that was coined in the aftermath of the financial crisis of 2009-2011
- Skewflation pressures occur when the price of a particular commodity, such as onions and potatoes, rises while the price of other commodities remains unchanged.
- Skewflation can also refer to the skewness of inflation across different sectors of the economy, with some experiencing high inflation, some experiencing none, and others experiencing deflation.

Consequences of Skewflation

- In most cases, high inflation is interpreted as a symptom of the demand exceeding the supply, and monetary and fiscal policy is tightened in response. Skewflation, on the other hand, is frequently considered as the market's natural response to external demand and supply shocks, and many economists suggest that it is better left unaffected by government intervention.
- The market uses relative-price signals to tell consumers and producers what to consume less and what to generate more. Interfering with these signals causes more harm than good.

Skewflation and Its Impact on the Economy

- It is plausible to argue that a modest amount of skewflation, say up to 2% per year in the food and non-tradable sectors, is a natural impact of rapid expansion in a rising economy.
- This is because during periods of high growth poor countries' purchasing power parity tends to catch up with that of industrialised nations. As a result, a slight skewflation, typically of up to 2%, maybe expected in a swiftly rising economy.

Skewflation and Its Impact on the Government

- Because commodities like onions are such an important part of the food basket and thus a significant component of a family's consumption expenditure, price fluctuations can influence major policy decisions and be used as a tool to turn the tide against the government of the day.
- For example, in 1998, despite high imports, skyrocketing onion prices across the country caused extreme hardship to the poor.

Q 70) :

Ans) [A] : 1 & 2 only

Exp) Statements 1 & 2 are correct:

- Islam was established in Sind and Multan.
- The attempt failed as Rajput's had a strong position in North. Initially, after the death of Muhammad bin Qasim, the Khalifah were shaken and the Islamic propagation was declined.
- The alliances made by Muhammad Bin Qasim proved to be fruitful in later invasion of Islamic rulers.
- The views on Islam were changed as Arabs were not cruel.
- No extra taxes were imposed on Hindus for believing in Hinduism which won their hearts and they embraced the Arabs with the open arms.

Q 71) :

Ans) [A] : 1 & 2 only

Exp) Statement 1 is incorrect: The proclamation of National Emergency (Article 352) must be approved by both the Houses of Parliament within one month from the date of its issue. If approved by both the Houses of Parliament, the emergency continues for six months, and can be extended to an indefinite period with an approval of the Parliament for every six months.

Statement 2 is incorrect:

A resolution of approving the continuation of a proclamation is to be passed by the both Houses of Parliament by a special majority.

Statement 3 is correct:

A resolution of disapproval is required to be passed by the Lok Sabha only and is to be adopted by a simple majority.

TargetUPSC: National Emergency

Introduction

- National emergency can be declared on the basis of war, external aggression or armed rebellion. The Constitution employs the expression 'proclamation of emergency' to denote an emergency of this type.
- Grounds of declaration:
 - Under Article 352, the president can declare a national emergency when the security of India or a part of it is threatened by war or external aggression or armed rebellion.
 - The President can declare a national emergency even before the actual occurrence of war or armed rebellion or external aggression
 - When a national emergency is declared on the grounds of 'war' or 'external aggression', it is known as 'External Emergency'. On the other hand, when it is declared on the grounds of 'armed rebellion', it is known as 'Internal Emergency'.
 - This term 'armed rebellion' is inserted from the 44th amendment. Before this term it was known as internal disturbance.
 - Example:
 - If India and Pakistan openly accept that they will use armed forces against each other is simply war.
 - If there is no formal declaration that there will be armed forces used against a country is External aggression.
 - And if because of these two grounds an emergency is proclaimed as an external emergency.

Facts

- The 38th Amendment Act of 1975 made the declaration of National Emergency immune to judicial review. But, this provision was subsequently deleted by the 44th Amendment Act of 1978.
- In Minerva Mills case (1980), the Supreme Court held that National Emergency can be challenged in the court on the ground of malafide or that the declaration was based on wholly extraneous and irrelevant facts.
- Parliamentary approval and duration
 - The proclamation of emergency must be approved by both the houses of parliament within one month from the date of its issue.
 - However, if the proclamation of emergency is issued at a time when the Lok Sabha has been dissolved or the dissolution takes place during the period of one month without approving the proclamation, then the proclamation survives until 30 days from the first sitting of Lok Sabha

- after its reconstitution, provided the Rajya Sabha has in the meantime approved it.
- If approved by both the houses, the Emergency continues for 6 months and can be extended to an indefinite period with an approval of the Parliament for every six months.
 - Every resolution approving the proclamation of emergency or its continuance must be passed by either House of Parliament by a special majority.
 - Revocation of proclamation
 - A proclamation of Emergency may be revoked by the President at any time by a subsequent proclamation. Such proclamation does not require parliamentary approval.
 - The emergency must be revoked if the Lok Sabha passes a resolution by a simple majority disapproving its continuation.
 - Effects of national emergency
 - A proclamation of Emergency has drastic and wide-ranging effects on the political system. These consequences can be grouped into 3 categories:
 - Effects on the centre-state relations: While a proclamation of Emergency is in force, the normal fabric of the Centre-State relations undergoes a basic change. this can be studied under three heads:
 - Executive: Centre becomes entitled to give executive directions to a state on 'any' matter
 - Legislative: The parliament becomes empowered to make laws on any subject mentioned in the state list, the president can issue ordinances on State subjects also, if the parliament is not in session. The laws made on state subjects by the parliament become inoperative six months after the emergency has ceased to be in operation.
 - Financial: the president can modify the constitutional distribution of revenues between the centre and the states.
 - Effect on the life of the Lok Sabha and State Assembly:
 - While a proclamation of National Emergency is in operation, the life of the Lok Sabha may be extended beyond the normal term for one year at a time. However, this extension cannot continue beyond a period of six months after the emergency has ceased to operate.
 - Similarly, the Parliament may extend the normal tenure of a state Legislative Assembly by one year each time during a national emergency, subject to a maximum period of six months after the emergency has ceased to operate.
 - Effect on fundamental rights: Articles 358 and 359 describes the effect of a National Emergency on the Fundamental Rights. These two provisions are explained below:
 - Suspension of Fundamental rights under Article 19: According to Article 358, when a proclamation of National Emergency is made, the six fundamental rights under article 19 are automatically suspended. Article 19 is automatically revived after the expiry of the emergency.
 - The 44th Amendment Act laid out that Article 19 can only be suspended when the National Emergency is laid on the grounds of war or external aggression and not in the case of armed rebellion.
 - Suspension of other Fundamental Rights: Under Article 359, the President is authorised to suspend, by order, the right to move any court for the enforcement of Fundamental Rights during a National Emergency. Thus, remedial measures are suspended and not the Fundamental Rights.
 - The suspension of enforcement relates to only those Fundamental Rights that are specified in the Presidential Order.
 - The suspension could be for the period during the operation of emergency or for a shorter period.
 - The Order should be laid before each House of Parliament for approval.
 - The 44 Amendment Act mandates that the President cannot suspend the right to move the court for the enforcement of Fundamental Rights guaranteed by Article 20 and 21.
 - Declarations made so far: This type of emergency has been proclaimed three times so far- in

1962, 1971 and 1975

- The first proclamation of National Emergency was issued in October 1962 on account of Chinese aggression in the NEFA and was in force till January 1968.
- The second proclamation of National Emergency was made in December 1971 in the wake of the attack by Pakistan.
- Even when the emergency was in operation, the third proclamation of National Emergency was made in June 1975. Both the second and the third proclamations were revoked in March 1977

Q 72) :

Ans) [C] : 2 only

Exp) Statement 2 is correct

Border Roads Organization breaks record at Zoji La battling extreme weather conditions.

Mountain Passes

Chorla Ghat

- Chorla Ghat is an Indian nature destination, located on the intersection of the borders of the states of Goa, Karnataka and Maharashtra.
- It is a part of the Western Ghats in the Sahyadri mountain range.
- The ghat boasts of a few rare species of wildlife such as the barred wolf snake (*Lycodon striatus*) in its sub-tropical forests.

Jelep La

- Jelep La is a high mountain pass between East Sikkim District, Sikkim, India and Tibet Autonomous Region, China.
- It is on a route that connects Lhasa to India.
- The pass is about 4 km (2.5 mi) south of Nathu La and is slightly higher.
- It was frequently used for trade between Tibet and India during the British Raj, with Kalimpong serving as the contact point.

Khyber Pass

- The Khyber Pass is a mountain pass in the Khyber Pakhtunkhwa province of Pakistan, on the border with Afghanistan (Nangarhar Province).
- It connects the town of Landi Kotal to the Valley of Peshawar at Jamrud by traversing part of the Spin Ghar mountains.
- Since it was part of the ancient Silk Road, it has been a vital trade route between Central Asia and the Indian subcontinent and a strategic military choke point for various states that controlled it.

Zoji La

- Zoji La is a high mountain pass in the Himalayas in the Indian union territory of Ladakh.
- Located in the Dras, the pass connects the Kashmir Valley to its west with the Dras and Suru valleys to its northeast and the Indus valley further east.
- The National Highway 1 between Srinagar and Leh in the western section of the Himalayan mountain range traverses the pass

Q 73) :

Ans) [B] : 2 & 3 only

Exp) Statements 2 & 3 are correct During the Quit India Movement, parallel governments were established at many places:

- Ballia (in August, 1942, for a week): Under Chittu Pandey. He got many Congress leaders released.
- Tamluk (Midnapore, from December, 1942 to September, 1944): Jatiya Sarkar undertook cyclone relief work, sanctioned grants to schools, supplied paddy from the rich to the poor, organized Vidyut Vahinis, etc.
- Satara (mid-1943 to 1945): Named "Prati Sarkar", it was organized under leaders like Y.B. Chavan, Nana Patil, etc. Village libraries and Nyayadan Mandals were organized, prohibition campaigns were carried on and 'Gandhi marriages' were organized. Active help was provided by the businessmen (through donations, shelter and material help), students (acting as couriers), simple villagers (by refusing information to the authorities), pilots and train drivers (by delivering bombs and other material) and government officials, including police (who passed on secret information to the activists).

TargetUPSC: Quit India Movement

Why in News?

On 8th Aug 2021, India completed 79 years of Quit India Movement also known as August Kranti.

QIM

- About:
 - On 8th August 1942, Mahatma Gandhi gave a clarion call to end the British rule and launched the Quit India Movement at the session of the All-India Congress Committee in Mumbai.
 - Gandhiji gave the call "Do or Die" in his speech delivered at the Gowalia Tank Maidan, now popularly known as August Kranti Maidan.
 - Aruna Asaf Ali popularly known as the 'Grand Old Lady' of the Independence Movement is known for hoisting the Indian flag at the Gowalia Tank Maidan in Mumbai during the Quit India Movement.
 - The slogan 'Quit India' was coined by Yusuf Meherally, a socialist and trade unionist who also served as Mayor of Mumbai.
 - Meherally had also coined the slogan "Simon Go Back".
- Causes:
 - Failure of Cripps Mission: The immediate cause for the movement was the collapse of Cripps Mission.
 - About: Under Stafford Cripps, the mission was sent to resolve the Indian question of a new constitution and self-government.
 - Reasons Behind Cripps Mission: Japanese aggression in South-East Asia, keenness of British Government to secure the full participation of India in the war, mounting pressure from China and the United States, as well as from the Labour Party in Britain, led British Prime Minister Winston Churchill to send the Cripps Mission to India in March 1942.
 - Reasons for Collapse: It failed because it offered India not complete freedom but the Dominion Status to India, along with the partition.
 - Involvement of India in World War II without prior consultation with the leaders:
 - The British assumption of unconditional support from India to British in World War II was not taken well by the Indian National Congress.
 - Prevalence of anti-British Sentiment:
 - The anti-British sentiments and demand for full-independence had gained popularity among Indian masses.
 - Centralisation of Many Small Movements:
 - The two decades of mass movement which were being conducted on a much more radical

- tone under the leadership of the various associated and affiliated bodies of the Congress, like All India Kisan Sabha, Forward Bloc etc. had already prepared the ground for the movement.
- There were militant outbursts happening at several places in the country which got channelized with the Quit India Movement.
 - Shortage of Essential Commodities:
 - The economy was also in shatters as a result of World War II.
 - Demands:
 - The demand was to end the British rule in India with immediate effect to get the cooperation of Indians in World War-II against fascism.
 - There was a demand to form a provisional government after the withdrawal of the Britishers.
 - Phases: The movement had three phases:
 - First Phase, urban revolt, marked by strikes, boycott and picketing, which were quickly suppressed.
 - There were strikes and demonstrations all over the country and workers provided the support by not working in the factories.
 - Gandhiji was soon imprisoned at Aga Khan Palace in Pune and almost all leaders were arrested.
 - In the second phase, the focus shifted to the countryside, which witnessed a major peasant rebellion, marked by destruction of communication systems, such as railway tracks and stations, telegraph wires and poles, attacks on government buildings or any other visible symbol of colonial authority.
 - The last phase witnessed the formation of national governments or parallel governments in isolated pockets (Ballia, Tamluk, Satara etc.)

Successes of the Movement

- Rise of Future Leaders:
 - Underground activities were taken by leaders that included Ram Manohar Lohia, J.P. Narayan, Aruna Asaf Ali, Biju Patnaik, Sucheta Kriplani, etc which later emerged as prominent leaders.
- Women Participation:
 - Women took active participation in the movement. Female leaders like Usha Mehta helped set up an underground radio station which led to the awakening about the movement.
- Rise of Nationalism:
 - A greater sense of unity and brotherhood emerged due to the Quit India Movement. Many students dropped out of schools and colleges, people gave up their jobs and withdrew money from the banks.
- Paved the way for Independence:
 - While the Quit India campaign was crushed in 1944, with the British refusing to grant immediate independence, saying it could happen only after the war had ended, they came to the important realization that India was ungovernable in the long run due to the cost of World War II.
 - It changed the nature of political negotiations with British, ultimately paving the way for India's independence.

Failure of the Movement

- Brutal Repression:
 - The movement saw violence at some places which was not premeditated.
 - The movement was violently suppressed by the British - people were shot, lathi-charged, villages burnt and enormous fines imposed.
 - Over 1,00,000 people were arrested and the government resorted to violence in order to

crush the agitation.

- Lack of Support:

- Muslim League, the Communist Party of India and the Hindu Mahasabha did not support the movement. The Indian bureaucracy also did not support the movement.

- The League was not in favour of the British leaving India without partitioning the country first.

- The Communist party supported the British since they were allied with the Soviet Union.

- The Hindu Mahasabha openly opposed the call for the Quit India Movement and boycotted it officially under the apprehension that the movement would create internal disorder and would endanger internal security during the war.

- Meanwhile, Subhas Chandra Bose, organised the Indian National Army and the Azad Hind government from outside the country.

- Many Congress members like C Rajagopalachari resigned from the provincial legislature as they did not favour Mahatma Gandhi's idea.

Q 74) :

Ans) [C] : Dara Shikoh

Exp) TargetUPSC: Dara Shikoh

Why in News?

The Ministry of Culture recently set up a seven-member panel of the Archaeological Survey of India (ASI) to locate the grave of the Dara Shikoh.

- He is believed to be buried somewhere in the Humayun's Tomb complex in Delhi, one of around 140 graves of the Mughal clan.

Dara Shikoh

- About:

- He (1615-59) was the eldest son of Shah Jahan. He is described as a "liberal Muslim" who tried to find commonalities between Hindu and Islamic traditions.

- He is known as a pioneer of the academic movement for interfaith understanding in India. He had a deep understanding and knowledge of major religions, particularly Islam and Hinduism.

- He was inclined towards philosophy and mysticism over military pursuits in comparison to Aurangzeb.

- In 1655, his father declared him the Crown Prince, but was defeated by Aurangzeb, his younger brother, in 1657 after Shah Jahan fell ill.

- He was assassinated by Aurangzeb, in a bitter struggle for the throne on 30th August, 1659 when he was 44.

- Works:

- Connection between Hinduism and Islam:

- His most important works, Majma-ul-Bahrain (Mingling of Two Oceans) and Surr-i-Akbar (Great Mystery), are devoted to the cause of establishing connections between Hinduism and Islam.

- Promotion of Indian Culture:

- He acquired proficiency in Sanskrit and Persian, which enabled him to play a key role in popularising Indian culture and Hindu religious thought.

- He translated the Upanishads and other important sources of Hindu religion and spirituality from Sanskrit to Persian. Through these translations, he was responsible for taking the Hindu culture and spiritual traditions to Europe and the West.

- - This is his outstanding contribution to India's intellectual and religious heritage.

Q 75) :

Ans) [B] : 2 & 3 only

Exp) Statement 2 & 3 are correct Liquidity

- Solvency: Solvency is the ability of a company to meet its long-term debts and financial obligations.
- Liquidity refers to the ease with which an asset, or security, can be converted into ready cash without affecting its market price.
- Cash is universally considered the most liquid asset because it can most quickly and easily be converted into other assets.
- There are two main measures of liquidity: market liquidity and accounting liquidity.
- Market liquidity refers to the extent to which a market, such as a country's stock market or a city's real estate market, allows assets to be bought and sold at stable, transparent prices.
- Accounting liquidity measures the ease with which an individual or company can meet their financial obligations with the liquid assets available to them-the ability to pay off debts as they come due.

Statutory Liquidity Ratio (SLR)

- It is the minimum percentage of deposits that a commercial bank has to maintain in the form of liquid cash, gold or other securities.
- It is basically the reserve requirement that banks are expected to keep before offering credit to customers.

Q 76) :

Ans) [A] : Vedanthangal Bird Sanctuary

Exp) Option A is correct Vedanthangal Bird Sanctuary

- The Vedanthangal Bird Sanctuary is one of the oldest in India, Kanchipuram district - 86 kms from Chennai about 250 years ago the locals noticed that this area comprising several lakes and ponds attracted a large number of birds.
- The area was recognised as a Sanctuary in 1936 and was named a Reserve in 1962 by the Madras Forest Act.
- It was upgraded to a wildlife sanctuary in 1972 by the Wildlife Protection Act. Till date the local community holds low key functions and marriages during the breeding season of the birds marking their exemplary link with the ecosystem.
- A tank having a compact grove of Barringtonia and Acacia nilotica trees Dry evergreen scrub and thorn forests.
- These sanctuaries are famous for their breeding heronry including cormorants, egrets, grey heron, open-billed stork, darter, poonbill, white ibnis, night herons, grebes, grey pelican etc.
- Many migratory birds like garganey teals, shovellers, pintails, stilts, sandpipers etc. visit the sanctuary in winter.
- A variety of resident birds like coots, moorhen and terns can also be seen. Vedanthangal is the oldest water bird sanctuary in the country.

The Sun Pharma's expansion project near Tamil Nadu's Vedanthangal Bird Sanctuary set to get green nod.

- It laid down certain conditions:
- No banned chemicals shall be manufactured by the project proponent.
- No banned raw materials shall be used in the unit.
- The project proponent shall adhere to the notifications/guidelines of the government in this regard.

Q 77) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

European Southern Observatory releases new image of Orion's Flame Nebula.

Constellations

- Constellations are formed of bright stars which appear close to each other on the sky, but are really far apart in space.
- Many societies saw patterns among the stars with gods and goddesses or stories from their culture.
- Because of the rotation of the Earth and its orbit around the Sun, we divide the constellations into two groups.
- Some constellations never rise nor set, and they are called circumpolar.
- All the rest are divided into seasonal constellations.
- Constellations in the northern circumpolar sky include Auriga, Camelopardalis, Cassiopeia, Cepheus, Draco, Lynx, Perseus, Ursa Major, and Ursa Minor. These constellations are always visible in the night sky of the Northern Hemisphere.
- Constellations in the southern circumpolar sky include Grus, Phoenix, Indus, Tucana, Pavo, Ara, Eridanus, Hydrus, Horologium, Reticulum, Octans, Apus, Triangulum Australe, Lupus, Circinus, Musca, Crux, Centaurus, Carina, Vela, Puppis, Dorado, and Chamaeleon. These constellations are always visible in the night sky of the Southern Hemisphere.

Q 78) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

- In 1902, the Raleigh Commission was set up to go into the conditions and prospects of universities in India and to suggest measures for improvement in their constitution and working.
 - The Commission precluded from reporting on primary or secondary education.
 - Based on its recommendations, the Indian Universities Act was passed in 1904.
- As per the Act,
- (i) the universities were to give more attention to study and research;
 - (ii) the number of fellows of a university and their period in office were reduced and most fellows were to be nominated by the Government;
 - (iii) the Government was to have powers to veto universities' senate regulations and could amend these regulations or pass regulations on its own;
 - (iv) conditions were to be made stricter for affiliation of private colleges; and
 - (v) five lakh rupees were to be sanctioned per annum for five years for the improvement of higher education and universities.

Q 79) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

A person is liable to a penalty of Rs 500 for each day he sits or votes as a member in a House in the following conditions:

1. Before taking and subscribing to the prescribed oath or affirmation; or
2. When he knows that he is not qualified or that he is disqualified for its membership; or
3. When he knows that he is prohibited from sitting or voting in the House by virtue of any parliamentary law.

Q 80) :

Ans) [A] : 1 only

Exp) Statement 1 is correct:

- The Adaptation Fund was established to finance concrete adaptation projects and programmes in developing countries that are parties to the Kyoto Protocol and are particularly vulnerable to the adverse effects of climate change.
- The Adaptation Fund is supervised and managed by the Adaptation Fund Board (AFB). The Board is composed of 16 members and 16 alternates and holds periodic meetings throughout the year.
- The Fund is financed in part by government and private donors, and also from a two percent share of proceeds of Certified Emission Reductions (CERs) issued under the Protocol's Clean Development Mechanism projects.

TargetUPSC: Adaptation fund

The latest data show that since 2010, the Adaptation Fund has directed \$532 million to 80 concrete adaptation projects in the most vulnerable communities of developing countries, serving 5.8 million direct beneficiaries.

What is Adaptation fund?

Established under the Kyoto Protocol of the UN Framework Convention on Climate Change.

- It finances projects and programmes that help vulnerable communities in developing countries adapt to climate change.
- Initiatives are based on country needs, views and priorities.

Financing:

The Fund is financed in part by government and private donors, and also from a two percent share of proceeds of Certified Emission Reductions (CERs) issued under the Protocol's Clean Development Mechanism projects.

Governance:

The Fund is supervised and managed by the Adaptation Fund Board (AFB). The AFB is composed of 16 members and 16 alternates and meets at least twice a year. The World Bank serves as trustee of the Adaptation Fund on an interim basis.

Q 81) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct Territorial Constituencies of Lok Sabha

For the purpose of holding direct elections to the Lok Sabha, each state is divided into territorial constituencies. In this respect, the Constitution makes the following two provisions:

1. Each state is allotted a number of seats in the Lok Sabha in such a manner that the ratio between that number and its population is the same for all states. This provision does not apply to a state having a population of less than six millions.
2. Each state is divided into territorial constituencies in such a manner that the ratio between the population of each constituency and the number of seats allotted to it is the same throughout the state.

In brief, the Constitution ensures that there is uniformity of representation in two respects:

- (a) between the different states, and
- (b) between the different constituencies in the same state.

The expression 'population' means the population as ascertained at the preceding census of which the relevant figures have been published.

Q 82) :

Ans) : Old and tectonically stable part of Continent

Exp) Option d is correct Craton

Craton, the stable interior portion of a continent characteristically composed of ancient crystalline basement rock. The term craton is used to distinguish such regions from mobile geosynclinal troughs, which are linear belts of sediment accumulations subject to subsidence (i.e., downwarping). The extensive central cratons of continents may consist of both shields and platforms. A shield is that part of a craton in which (usually) Precambrian basement rocks crop out extensively at the surface. By contrast, in a platform the basement is overlain by horizontal or subhorizontal sediments. The Orange/red areas in the above map show the craton regions of the World.

TargetUPSC: Singhbhum craton

The Singhbhum craton is located in the eastern India. The Archean cratons are those regions of the earth crust that remained undeformed since the Precambrian times.

About Singhbhum craton

The Singhbhum craton is encircled by greenstone belts such as similipal, Dalma, Dhanjori, etc. They are rich in iron. It is one of the five major Archean cratons of Indian shield. The other four cratons are Bastar craton, Dharwar craton, Aravalli craton and Bhundelkhand craton. The Singhbhum craton is made of Archean rocks. They are located in northern parts of Odisha and Jharkhand. It is bordered by Chhotanagpur plateau in the north, Bastar craton in the south, Eastern ghats in south east and Alluvium to the east.

Discovery about Singhbhum craton in 2021

In November 2021, the scientists discovered that the sedimentary evidence in Singhbhum craton emerged above the sea level around 3 billion years ago. This means that the rocks in this region were formed even before the plate tectonics existed. The plate tectonics controls the current elevation on the earth surface. The Alps and Himalayas are formed when two tectonic plates collide. The Himalayas are still growing. The scientists found 3.1-billion-year-old sandstone layer on the top of Singhbhum craton. They believe that the Singhbhum craton was formed by the gradual accumulation of volcanic lava. The elements in rocks extracted from the Singhbhum craton were similar to those in Western Australia and South Africa.

Q 83) :

Ans) [B] : 2 & 3 only

Exp) Statement 2 & 3 are correct

The Second Round Table Conference was held in London from September, 1931 to December, 1931. The Indian National Congress nominated Gandhi as its sole representative. A.

Rangaswami Iyengar and Madan Mohan Malaviya were also there.

There were a large number of Indian participants, besides the Congress. The Government of India was represented by C.P. Ramaswami Iyer, Narendra Nath Law and M. Ramachandra Rao. Not much was expected from the Conference because of the following reasons:

- By this time, Lord Irwin had been replaced by Lord Willingdon as the Viceroy in India.
- The session soon got deadlocked on the question of the minorities. Separate electorates were being demanded by the Muslims, the depressed classes, Christians and Anglo-Indians. All these came together in a 'Minorities' Pact'.
- The princes were also not too enthusiastic about a federation, especially after the possibility of the formation of a Congress government at the Centre had receded after the suspension of the Civil Disobedience Movement.

Outcome:

The session ended with MacDonald's announcement of:

- (i) Two Muslim majority provinces: North-West Frontier Province (NWFP) and Sindh;
- (ii) The setting up of an Indian Consultative Committee;
- (iii) The setting up of 3 expert committees: Finance, franchise and states; and
- (iv) The prospect of a unilateral British Communal Award if the Indians failed to agree.

The government refused to concede the basic Indian demand of freedom. Gandhi returned to India in December 1931.

TargetUPSC: Round Table Conference

First RTC

- The first Round Table Conference was held in London between November 1930 and January 1931 and was chaired by Ramsay MacDonald.
- This was the first conference arranged between the British and the Indians as equals.
- The Congress and some prominent business leaders refused to attend it.
- The Princely States, Muslim League, Justice Party, Hindu Mahasabha etc. attended it.
- Nothing much was achieved at the conference. The British government realized that the participation of the Indian National Congress was necessary in any discussion on the future of constitutional government in India.

Second RTC

- The second Round Table Conference was held in London from September 7, 1931 to December 1, 1931. By this time, Lord Irwin had been replaced by Lord Willingdon as viceroy in India.
- The Indian National Congress nominated Gandhi as its sole representative.
- There were a large number of Indian participants, besides the Congress. The Princely States, Muslim League, Justice Party, Hindu Mahasabha etc. attended it.
- The session got deadlocked on the question of the minorities. Separate electorates were being demanded by the Muslims, depressed classes, Christians and Anglo-Indians.
- All these came together in a 'Minorities' Pact'. Gandhi fought desperately against this concerted move to make all constitutional progress conditional on the solving of this issue.
- The lack of agreement among the many delegate groups meant that no substantial results regarding India's constitutional future would come out of the conference.
- The government refused to concede the basic Indian demand of freedom. Gandhi returned to India and gave a call to resume the Civil Disobedience Movement.

Third RTC

- The third Round Table Conference, held between November 17, 1932 and December 24, 1932, was not attended by the Indian National Congress and Gandhi. It was ignored by most other Indian leaders
- Apart from princely states representatives like Aga Khan III, B.R. Ambedkar, Muhammad Iqbal, M.R. Jayakar, N.M. Joshi etc. were present.
- Again, like in the two previous conferences, little was achieved. The recommendations were published in a White Paper in March 1933 and debated in the British Parliament afterwards based on which Government of India Act 1935 was enacted.

Q 84) :

Ans) [B] : Sind

Exp) Option b is correct Chach Nama

- The Chach Nama is one of the main historical sources for the history of Sindh in the seventh to eighth centuries CE, written in Persian.
- The text, with the stories of early 8th-century conquests of Muhammad bin Qasim, has been long considered to be a 13th-century translation into Persian by `Ali Kufi of an undated, original but unavailable Arabic text.
- Note: King Dahir of sind, who was defeated by Mohammad bin Qasim, belonged to Chach Dynasty.

Q 85) :

Ans) [D] : 2 & 3 only

Exp) Statements 2 & 3 are correct New IPO regulations given by SEBI

- According to the new SEBI rules, the price band of an IPO should be set in such a way that the ceiling price is at least 105% of the floor price.
- Secondly, companies will not be allowed to use more than 35% of the money that they collect through IPOs to fund the purchase of other businesses, unless they offer sufficient details.
- Thirdly, promoters with a stake of over 20% in a company cannot sell more than half of their stake in an IPO.
- And lastly, anchor investors will not be able to sell more than half their shares before 90 days from the date of the IPO, against the current time stipulation of 30 days.

TargetUPSC: Initial Public Offering (IPO)

Why in News?

Recently, the government-owned Life Insurance Corporation of India (LIC) filed its Draft Red Herring Prospectus (DRHP) for its mega Initial Public Offering (IPO) with the Securities and Exchange Board of India (SEBI).

- The Government, which owns 100% of LIC, will be offloading 5% of its stake through the IPO. All the proceeds from the IPO, which is in the form of an offer for sale and is expected to total up to at least Rs. 60,000 crore, will go towards meeting the Government's disinvestment target for FY22.
- LIC is fully owned by the government. It was set up in 1956. It has the biggest share in India's insurance business.

What is an IPO?

- It is the process by which a privately held company, or a company owned by the government such as LIC, raises funds by offering shares to the public or to new investors.
- Following the IPO, the company is listed on the stock exchange. Stock exchange is an organized market for the sale and purchase of securities such as shares, stocks, and bonds.
- A listed company can raise share capital for growth and expansion in the future through a follow-on public offering or FPO.
- While coming up with an IPO, the company has to file its offer document with the market regulator Securities and Exchange Board of India (SEBI).
- The offer document contains all relevant information about the company, its promoters, its projects, financial details, the object of raising the money, terms of the issue, etc.
- SEBI is a statutory body established in 1992 in accordance with the provisions of the Securities and Exchange Board of India Act, 1992.

What is an Offer for Sale?

- Under the offer for sale method, securities are not issued directly to the public but are offered for sale through intermediaries like issuing houses or stock brokers.
- In this case, a company sells securities enbloc at an agreed price to brokers who, in turn,

resell them to the investing public.

What is DRHP?

- A Draft Red Herring Prospectus (DRHP) is a legal preliminary document. It serves as an important communication link between the IPO-bound company and its investors and stakeholders.

Who is allowed to invest in an IPO?

- Qualified Institutional Buyers (QIBs) is a category of investors that includes Foreign Portfolio Investors (FPIs), mutual funds, commercial banks, insurance companies, pension funds, etc.
- QIBs are those institutional investors who are generally perceived to possess expertise and the financial capacities to evaluate and invest in the capital markets.
- All individuals who invest up to Rs 2 lakh in an issue are classified as retail investors.
- Retail investors investing above Rs 2 lakh are classified as high net worth individuals.

Which companies can come out with an IPO?

- In order to protect investors, SEBI has laid down rules that require companies to meet certain criteria before they can go to the public to raise funds.
- Among other conditions, the company must have net tangible assets of at least Rs 3 crore, and net worth of Rs 1 crore in each of the preceding three full years, and it must have a minimum average pre-tax profit of Rs 15 crore in at least three of the immediately preceding five years.

Q 86) :

Ans) [C] : 1, 2 & 4 only

Exp) Statement 1, 2 & 4 are correct

Humans do not use atmospheric nitrogen directly. Nitrogen is taken by body through food materials.

TargetUPSC: Nitrogen Cycle

- Nitrogen is one of the primary nutrients critical for the survival of all living organisms.
- It is a necessary component of many biomolecules, including proteins, DNA, and chlorophyll.
- Although nitrogen is abundant in the atmosphere as Nitrogen gas (N₂), it is largely inaccessible in this form to most organisms, making nitrogen a scarce resource and often limiting primary productivity in many ecosystems.
- Only when nitrogen is converted from Nitrogen gas into ammonia (NH₃) it becomes available to primary producers, such as plants.
- The major transformations of nitrogen gas are through the process of:
 - Nitrogen fixation (nitrogen gas to ammonia),
 - Nitrification (ammonia to nitrite and nitrate),
 - Denitrification (nitrate to nitrogen gases)
- The process of converting Nitrogen gas (N₂) into biologically available nitrogen, that is ammonia, by nitrogen fixing microorganisms, is called nitrogen fixation.
- Some nitrogen-fixing organisms are free-living, while others are symbiotic nitrogen-fixers, which require a close association with the host to carry out the process.
- Some of these bacteria are aerobic, others are anaerobic; some are phototrophic, others are chemotrophic (use chemicals as their energy source instead of light).
- They all have a similar enzyme complex called nitrogenase that catalyzes the reduction of N₂ to NH₃ (ammonia).
- Nitrification is the process that converts ammonia to nitrite and then to nitrate.

- Most nitrification occurs aerobically and there are two distinct steps of nitrification that are carried out by distinct types of microorganisms.
- - The first step is the oxidation of ammonia to nitrite, which is carried out by microbes known as ammonia-oxidizers.
- - The second step in nitrification is the oxidation of nitrite (NO₂⁻) to nitrate (NO₃⁻). This step is carried out by a completely separate group of prokaryotes (a unicellular organism), known as nitrite-oxidizing bacteria.

Q 87) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct Dark Genome

- The human genome is conventionally divided into the "coding" genome, which generates the ~20,000 annotated human protein coding genes, and the "dark" genome, which does not encode proteins.
- The dark genome is a vast space, accounting for the ~98.5% of genomic space where repeat elements, enhancers, regulatory sequences, and non-coding RNAs reside.
- Researchers investigating the "dark genome" report that they have discovered recently evolved regions that code for proteins associated with schizophrenia and bipolar disorder.
- They say these new proteins can be used as biological indicators to distinguish between the two conditions, and to identify patients more prone to psychosis or suicide.
- Hotspots in the dark genome associated with the disorders may have evolved because they have beneficial functions in human development, but their disruption by environmental factors leads to susceptibility to, or development of, schizophrenia or bipolar disorder.
- The researchers think that these genomic components of schizophrenia and bipolar disorder are specific to humans-the newly discovered regions are not found in the genomes of other vertebrates.

Q 88) :

Ans) [B] : 3 only

Exp) Statement 1 is incorrect:

Merchandise credit relates to export of goods while merchandise debit represents import of goods. These are mainly based on reporting from the authorized dealers (ADs) supplemented by the information from other sources such as DGCI&S, USAID, Government of India.

Statement 2 is incorrect:

Commercial borrowings cover all medium/long term loans. Commercial Borrowings by India denote loans extended by the Export Import Bank of India (EXIM bank) to various countries and repayment of such loans. Commercial Borrowings - to India denote draws/ repayment of loans including buyers' credit, suppliers' credit, floating rate notes (FRNs), commercial paper (CP), bonds, foreign currency convertible bonds (FCCBs) issued abroad by the Indian corporate, etc.

Statement 3 is correct:

COVID-19 pandemic has triggered the worst global recession in 2020 since the Great Depression; the adverse economic impact is, however, expected to be lesser than initially feared. The changing nature of India's global trade manifested in terms of sliding exports of gems and jewellery, engineering goods, textile and allied products and improving exports of drugs and pharma, software and agriculture and allied products.

Q 89) :

Ans) [D] : All of the above

Exp) All Statements are correct

Military Reforms

- Alauddin Khilji maintained a strong and huge standing army to safeguard his empire.
- He introduced the system of branding of horses (dagh) and maintenance of descriptive register of soldiers to prevent false musters and corrupt practices.
- Alauddin abolished the Jagir system and paid the salaries in cash.
- He fixed the pay of soldiers at 234 tankas a year, with an additional 78 tankas for a soldier maintaining two horses.
- Ariz-i-Mumalik was in charge of the appointment of soldiers.

Revenue Reforms

- Alauddin Khilji introduced scientific method of measurement of land for the assessment of land revenue.
- He imposed heavy taxes on the Sardars, Jagidars and Ulemas.
- Jazia was imposed on non-Muslims. They had to pay it along with other taxes like pilgrim tax, octroi etc.
- He increased the salaries of revenue officials to check bribery and corruption.
- The post of a special officer called "Mustakhraj" was created to collect land revenue from peasants.
- He took steps to safeguard the peasants from the demands of corrupt revenue officials by imposing strict punishments even for petty offences.

Economic Reforms (Market Regulations)

- Alauddin Khilji introduced the market regulations to help soldiers and to make ends meet. Prices of all articles of common use were fixed. Separate department and special officers were appointed to regulate the market. The price fixed in the capital was applicable to all towns.

Price List

- Wheat per mana 7 1/2 jitals
- Rice per mana 5 jitals
- Pulses per mana 5 jitals
- Barley per mana 4 jitals
- Sesamum per mana 3 sers 1 jital
- Ghee per 2 1/2 sers 1 jital
- Sugar per 1 1/2 sers 1 1/2 jitals
- One horse 100 to 200 tankas
- One cow 4 to 5 tankas
- Male slave 100 to 200 tankas
- Female slave 40 to 50 tankas

Grains were stored in government granaries. The storage was meant for emergencies like times of scarcity and famine. Any trader or vendor who cheated in weights and measurements were punished with cutting of an equal weight of flesh from his body (thighs).

Q 90) :

Ans) [A] : 1 & 2 only

Exp) Statement 1 is correct: Financial capital most commonly refers to assets needed by a company to provide goods or services, as measured in terms of money value. Financial capital

is a much broader term than economic capital. In a sense, anything can be a form of financial capital as long as it has a monetary value and is used in the pursuit of future revenue.

Statement 2 is correct: The concept of economic capital was initially developed as a tool for internal risk management. It is the estimated amount of money needed to cover possible losses from unexpected risk. A firm's economic capital number can also be seen as a measurement of solvency.

Statement 3 is incorrect: Financial capital is necessary in order to get a business off the ground. This type of capital comes from two sources: debt and equity. Debt capital refers to borrowed funds that must be repaid at a later date, usually with interest.

Q 91) :

Ans) [B] : 2 only

Exp) Statement 1 is incorrect: In case of a conflict between the Central law and the state law on a subject enumerated in the Concurrent List, the Central law prevails over the state law, except when the state law has been reserved for the consideration of the president and has received his assent. But, it would still be competent for the Parliament to override such a law by subsequently making a law on the same matter.

Statement 2 is correct: The power to make laws with respect to residuary subjects (i.e., the matters which are not enumerated in any of the three lists) is vested in the Parliament. This residuary power of legislation includes the power to levy residuary taxes.

TargetUPSC: Centre-state legislative relations

There are four aspects in the Centre-state legislative relations:

- Territorial extent of central and state legislation
- Distribution of legislative subjects
- Parliamentary legislation in the state field
- Centre's control over state legislation

Territorial extent of central and state legislation

- Parliament can make law for the whole or any part of the territory of India (territory includes union, state, UT)
- State legislature can make laws for the whole or any part of the state. Laws made by the state are not applicable outside the state, except when there is sufficient relation between the state and object
- Parliament can alone make 'extra-territorial' legislation
- Instances when laws made by the Parliament are not applicable:
 - President can make regulations which has a same effect as that of the law made by parliament for- Andaman and Nicobar islands, Daman and Diu, Dadra and Nagar Haveli and Lakshadweep
 - Governor is empowered to direct that an act of parliament does not apply to a scheduled area in the state or apply with specified modifications and exceptions
 - Governor of Assam can likewise direct that an ac of Parliament does not apply or apply with some modification. The same power is vested in President in relation to Meghalaya, Tripura and Mizoram

Distribution of Legislative subjects

- Constitution provides for three-fold classification- union list, state list and concurrent list

- Parliament has exclusive powers vis-à-vis the union list
- State legislature in normal circumstances has exclusive powers to make laws with matters enumerated in the state list
- Both state and centre can make laws on matters enumerated in the concurrent list

Remember: 42nd amendment act of 1976 transferred five subjects to constitution

- Education
- Forests
- Weights and measures
- Protection of wild animals and birds
- Administration of justice; constitution and organization of all courts except the supreme court and the high courts
- Power to make laws with residuary subject is vested in the Parliament
- Union list has precedence over state list and concurrent list has precedence over state list
- In case of conflict between central law and state law on a subject enumerated in the concurrent list, the central law prevails over the state law. However, if the state law has been reserved for the consideration of the president and has received his assent, then the state law prevails in the state. Still, parliament can override the state law by subsequently making a law on that matter

In USA, only powers concerning the federal government are mentioned in the constitution and the other powers are left to the states. In Canada, however, two lists are enumerated- centre and the state and the residuary powers is vested with the centre

This scheme of enumeration of legislative subjects was borrowed from Government of India act, 1935, except for the provision which vested the residuary powers in the governor-general

Parliamentary legislation in state field

- Constitution empowers the Parliament to make laws on any matter enumerated in the state list under the following five extraordinary circumstances:
- If Rajya Sabha passes a resolution supported by a 2/3rd members present and voting empowering parliament to make a law on a matter enumerated in the state list in the best interest of the country. Such a resolution stays in effect for a year. Such a resolution can be renewed any number of times but not for more than a year at a time. The laws made under this cease to have an effect after expiration of six months of the resolution. However, state can make a law on the same subject, but if there is an inconsistency between state and union law, the latter prevails
- When a proclamation of National emergency is in vogue then the Parliament can legislate on a matter enumerated in state list. The laws made under this cease to have an effect after expiration of six months of national emergency. Here also, a state law can make a law on the subject, however, the union law would prevail if there is any inconsistency
- When states make a request for Parliament by passing a resolution to that effect than Parliament becomes empowered to legislate on matters enumerated in the resolution. Once this resolution is passed, the state forfeits every right with regards to that subject
- Parliament can enacts laws on matters enumerated in the state list so as to enforce international agreements
- Parliament becomes empowered to enact a law on the state matter during the time of operation of President's rule. The law made during this time would continue even after the expiration of the president's rule. However, the state can later pass an act to either modify, or

nullify the act as it sees fit

Centre's control over state legislation

- Constitution has empowered the centre to exercise control over the state's legislative matters in the following ways:
- Governor can reserve certain types of bills passed by state legislature for the consideration of the president. The president enjoys absolute veto over them
- Bills on certain matters enumerated in the state list can be introduced in the state legislature only with prior recommendation of the President. Ex: Inter-state trade and commerce

During a financial emergency, president can call upon a state to reserve money bills and other financial bills for his consideration

Q 92) :

Ans) [A] : 1 only

Exp) Targetshots

Earth's interior is cooling faster than expected, study notes.

Bridgmanite

- Bridgmanite is commonly found between Earth's core and mantle.
- Researchers have suspected that Earth's inner heat is dissipating sooner, making it cool faster than expected due to Bridgmanite thermal conductivity.
- The international team measured the radioactive thermal conductivity of bridgmanite in the laboratory.
- The core-mantle boundary of Earth is rich in bridgmanite.
- The results showed that the thermal conductivity of bridgmanite was about 1.5 times higher than assumed.
- These findings also suggest that other rocky planets may be cooling and becoming inactive faster than expected.
- The paper recently published in Earth and Planetary Science Letters adds that this cooling can weaken many tectonic activities.

Q 93) :

Ans) [D] : 1, 2 & 3

Exp) Targetshots

In March, 1931, a special session of the Congress was held at Karachi to endorse the Gandhi-Irwin Pact.

Congress Resolutions at Karachi -

- The goal of Purna Swaraj was reiterated.
- Two resolutions were adopted - one on Fundamental Rights and the other on National Economic Programme - which made the Session particularly memorable.

The Resolution on Fundamental Rights guaranteed -

- Free speech and free press
- Right to form associations
- Right to assemble
- Universal adult franchise
- Equal legal rights, irrespective of caste, creed and sex
- Neutrality of state in religious matters

- Free and compulsory primary education
 - Protection to culture, language, script of minorities and linguistic groups
- The Resolution on National Economic

Programme included -

- Substantial reduction in rent and revenue in the case of landholders and peasants
- Exemption from rent for uneconomic holdings
- Relief from agricultural indebtedness
- Control of usury
- Better conditions of work, including a living wage, limited hours of work and protection of women workers in the industrial sector
- Right to workers and peasants to form unions
- State ownership and control of key industries, mines and means of transport

This was the first time the Congress spelt out what Swaraj would mean for the masses - "in order to end exploitation of masses, political freedom must include economic freedom of starving millions."

Q 94) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

The All-India Women's Conference (AIWC) was the most important and the most truly "Indian" organisation, secular in outlook. The AIWC first met at Pune in 1927, through the efforts of Margaret Cousins.

The Conference discussed vital issues on female education, child marriage and purdah.

By 1928 the All-India Women's Conference on Educational Reform decided that there could be little progress in educational matters unless harmful social customs were eradicated. The AIWC established its quarterly journal, Roshni, and in 1946 set up a central office. The AIWC created a great deal of public opinion in favour of the Child Marriage Restraint Act or Sharda Act. When the Muslim leaders asked that the Sharda Act be amended to exclude Muslims the AIWC combated this move, claiming that it spoke for all women in India.

Q 95) :

Ans) [C] : 1 & 3 only

Exp) Statement 1 & 3 are correct:

Normally, when the government raises a loan, it includes the interest amount. When that amount is deducted from the principal loan amount, that is the primary deficit.

Primary Deficit Formula:

Primary Deficit = Fiscal Deficit (Total expenditure - Total income of the government) - Interest payments (of previous borrowings).

Difference between Primary Deficit and Fiscal Deficit:

- Primary Deficit is the difference between fiscal deficit and interest payments.
- Fiscal deficit is the difference between the total expenditure of the government and its total income.

Primary deficit can be calculated using the formula: Fiscal deficit - Interest payments made.

What does Primary Deficit indicate?

- Primary deficit is measured to know the amount of borrowing that the government can

utilize, excluding the interest payments.

- When the primary deficit is zero, the fiscal deficit becomes equal to the interest payment. This means that the government has resorted to borrowings just to pay off the interest payments.

Further, nothing is added to the existing loan.

Q 96) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct Critically Endangered (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria for Critically Endangered. Criteria - reduction in population (> 90% over the last 10 years) - population size (number less than 50 mature individuals) - Quantitative analysis showing the probability of extinction in wild in at least 50% in their 10 years) and it is therefore considered to be facing an extremely high risk of extinction in the wild.

TargetUPSC: IUCN Red List

The latest update to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species shows that more and more species assessed are being threatened with extinction.

- The list assessed 1,05,732 species - the largest such assessment of species, out of which 28,338 species are threatened with extinction.
- The updated list brings out an alarming rate of decline of freshwater and deep sea species. For example, over 50 % of Japan's endemic freshwater fishes are under the threat of extinction.
- Wedgefishes and giant guitarfishes, collectively known as Rhino Rays because of their elongated snouts, have been listed as the 'most imperilled marine fish families in the world'.
- The main drivers of this decline are the loss of free flowing rivers and increasing agricultural and urban pollution.
- Close to 50% of the species assessed by IUCN have been put under the 'Least Concern' category. It means the rest 50% are under various degrees of decline.
- Of the total assessed, 873 are already extinct while 6,127 are critically endangered.
- This Red List update confirms the findings of the IPBES Global Biodiversity Assessment.
- The list clearly indicates that humans are overexploiting wildlife.
- According to the global Strategic Plan for Biodiversity (2011-2020)'s Target 12, the extinction of known threatened species has to be 'prevented' by 2020. The target also includes an improvement in the conservation status of species.

The International Union for Conservation of Nature

- IUCN is a membership union uniquely composed of both government and civil society organisations.
- Created in 1948, it is the global authority on the status of the natural world and the measures needed to safeguard it.
- It is headquartered in Switzerland.
- The IUCN Red List of Threatened Species, is the world's most comprehensive inventory of the global conservation status of plant and animal species.
- It uses a set of quantitative criteria to evaluate the extinction risk of species. These criteria are relevant to most species and all regions of the world.
- The IUCN Red List Categories define the extinction risk of species assessed. Nine categories extend from NE (Not Evaluated) to EX (Extinct). Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with extinction.

- It is recognized as the most authoritative guide to the status of biological diversity.
- It is also a key indicator for the SDGs and Aichi Targets.

Q 97) :

Ans) [A] : 1 only

Exp) Statement 1 is correct: Carbon Enhanced Metal Poor (CEMP) Stars

- Metal-poor stars technically called Carbon Enhanced Metal Poor (CEMP) stars show enhancement of carbon.
- These were formed from the ejected material of the first stars that formed after the Big Bang, carrying the chemical imprints of early Galactic chemical evolution.
- Probing into the formation of these metal-poor stars that exhibit enhancement in carbon as well as the specified heavy elements can help trace the origin and evolution of the elements in the Universe.
- CEMP stars are characterized by diverse heavy elements abundance patterns and are primarily classified into four groups, based on which groups of heavy elements are more abundant.
- These are mostly dwarf stars, sub-giant stars, or giant stars, and stars that belong to these evolutionary stages cannot produce elements heavier than iron.
- Scientists earlier found that heavier elements are produced mainly by two processes of nucleosynthesis- slow and rapid neutroncapture processes called s and r processes respectively.
- The CEMP stars showing enhancements of sprocess and r-process elements are known as CEMP-s and CEMP-r stars respectively.
- Another subclass of CEMP stars, known as CEMP-r/s stars exhibit enhancement of both s- and r-process elements, the production process of which had remained a puzzle.
- A group of scientists from the Indian Institute of Astrophysics (IIA) have found that an intermediate process which they called iprocess operating at neutron densities intermediate between those for s-process and r-process is responsible for the peculiar abundance pattern of CEMP-r/s stars.
- They have also put forward a new stellar classification criteria based on the abundances of barium, lanthanum and europium to distinguish between the CEMP-s and CEMPr/s stars.
- The team analyzed high quality, high resolution spectra of five CEMP stars acquired using 2-m Himalayan Chandra Telescope (HCT) at the Indian Astronomical Observatory, 1.52-m Telescope at the European Southern Observatory at La Silla, Chile, and the 8.2-m SUBARU Telescope at the summit of Mauna Kea, Hawaii.

Q 98) :

Ans) [A] : 1 & 2 only

Exp) Statement 1 is correct: The Government securities market is the principal segment of the Indian debt market. Its importance lies in facilitating market borrowings by the Government, enabling the pricing of other debt instruments of varying risk perceptions, and bringing about an effective and reliable transmission channel for the use of indirect instruments of monetary policy. In fact, the interest rates on Government securities act as a benchmark for pricing securities in the rest of the financial markets.

Statement 2 is correct: The price of a bond is nothing but the sum of present value of all future cash flows of the bond. The interest rate used for discounting the cash flows is the Yield to Maturity (YTM) of the bond.

Statement 3 is incorrect: The Government guaranteed bonds are not treated as part of Government securities but as an integral part of the corporate debt. However, in view of the sovereign guarantee extended and the large magnitudes of such securities in the debt market, they deserve to be separately identified as a category, and data collected and disseminated.

Q 99) :

Ans) [C] : Both 1 & 2

Exp) All Statements are correct

-Ministry of Coal has recently constituted 2 Committees to Prepare Road Map for Coal based Hydrogen Production.

Hydrogen

- Coal is one of the important sources of hydrogen making (Brown Hydrogen).
- However, Coal has not been encouraged elsewhere because of the fear that while extracting hydrogen via coal (from the moisture embedded in coal) there may be carbon emission.
- Almost 100% of Hydrogen produced in India is through Natural Gas.
- Cost of Hydrogen produced from coal can be cheaper and less sensitive to imports when compared with hydrogen production through electrolysis and Natural Gas respectively.

TargetUPSC: National Hydrogen Energy Mission

Why in News

The Union Budget for 2021-22 has announced a National Hydrogen Energy Mission (NHM) that will draw up a road map for using hydrogen as an energy source. The initiative has the potential of transforming transportation.

- NHM initiative will capitalise on one of the most abundant elements on earth (Hydrogen) for a cleaner alternative fuel option.

NHEM

- About:
 - Focus on generation of hydrogen from green power resources.
 - To link India's growing renewable capacity with the hydrogen economy.
 - India's ambitious goal of 175 GW by 2022 got an impetus in the 2021-22 budget which allocated Rs. 1500 crore for renewable energy development and NHM.
 - The usage of hydrogen will not only help India in achieving its emission goals under the Paris Agreement, but will also reduce import dependency on fossil fuels.
- Hydrogen:
 - Hydrogen is the lightest and first element on the periodic table. Since the weight of hydrogen is less than air, it rises in the atmosphere and is therefore rarely found in its pure form, H₂.
 - At standard temperature and pressure, hydrogen is a nontoxic, nonmetallic, odorless, tasteless, colorless, and highly combustible diatomic gas.
 - Hydrogen fuel is a zero-emission fuel burned with oxygen. It can be used in fuel cells or internal combustion engines. It is also used as a fuel for spacecraft propulsion.
- Type of Hydrogen:
 - Grey Hydrogen:
 - Constitutes India's bulk Production.
 - Extracted from hydrocarbons (fossil fuels, natural gas).
 - By product: CO₂
 - Blue Hydrogen:
 - Sourced from fossil fuels.

- By product: CO, CO₂
- By products are Captured and Stored, so better than gey hydrogen.
- Green Hydrogen:
 - Generated from renewable energy (like Solar, Wind).
 - Electricity splits water into hydrogen and oxygen.
- By Products : Water, Water Vapor
- Asia-Pacific Stance:
 - In Asia-Pacific sub-continent, Japan and South Korea are on the front foot in terms of hydrogen policy making.
 - In 2017, Japan formulated the Basic Hydrogen Strategy which sets out the country's action plan till 2030, including the establishment of an international supply chain.
 - South Korea is operating hydrogen projects and Hydrogen Fuel Cell production units under the auspices of its Hydrogen Economy Development and Safe Management of Hydrogen Act, 2020.
 - South Korea has also passed the Economic Promotion and Safety Control of Hydrogen Act, which deals with three key areas - hydrogen vehicles, charging stations and fuel cells. This law is intended to bring transparency to the nation's hydrogen pricing system.
- Indian Context:
 - India has a huge edge in green hydrogen production owing to its favorable geographic conditions and presence of abundant natural elements.
 - The government has given impetus in scaling up the gas pipeline infrastructure across the length and breadth of the country, and has introduced reforms for the power grid, including the introduction of smart grids. Such steps are being taken to effectively integrate renewable energy in the present energy mix.
 - Capacity addition to renewable power generation, storage and transmission, producing green hydrogen in India can become cost effective which will not only guarantee energy security, but also ensure self-sufficiency gradually.
- Policy Challenges :
 - One of the biggest challenges faced by the industry for using hydrogen commercially is the economic sustainability of extracting green or blue hydrogen.
 - The technology used in production and use of hydrogen like Carbon Capture and Storage (CCS) and hydrogen fuel cell technology are at nascent stage and are expensive which in turn increases the cost of production of hydrogen.
 - Maintenance costs for fuel cells post-completion of a plant can be costly.
 - The commercial usage of hydrogen as a fuel and in industries requires mammoth investment in R&D of such technology and infrastructure for production, storage, transportation and demand creation for hydrogen.

Q 100) :

Ans) [D] : 1, 2 & 3

Exp) All Statements are correct

The Red Sea is one of the saltiest bodies of water in the world, owing to high evaporation and low precipitation; no significant rivers or streams drain into the sea, and its southern connection to the Gulf of Aden, an arm of the Indian Ocean, is narrow. Its salinity ranges from between ~36 % in the southern part and 41 % in the northern part around the Gulf of Suez, with an average of 40 %.

TargetUPSC: Red Sea

Why in News?

An Iranian freighter was hit by Israel in the Red Sea in retaliation for past Iranian strikes on

its vessels. The blast struck the Iranian commercial vessel MV Saviz off the coast of Djibouti.

- The attack came as Iranian officials gathered in Vienna to negotiate the restoration of a 2015 deal Joint Comprehensive Plan of Action (JCPOA) that was designed to curb Iran's nuclear activities.

Red Sea:

- Location:

- The Red Sea is a semi-enclosed tropical basin, bounded by northeastern Africa, to the west, and the Arabian peninsula, to the east.

- The elongated and narrow-shaped basin extends between the Mediterranean Sea, to the north-west, and the Indian Ocean, to the south-east.

- At the northern end, it separates into the Gulf of Aqaba and the Gulf of Suez, which is connected to the Mediterranean Sea via the Suez Canal.

- At the southern end, it is connected to the Gulf of Aden, and the outer Indian Ocean, via the Strait of Bab-el-Mandeb.

- It is surrounded by desert or semi-desert areas, with no major freshwater inflow.

- Formation:

- The Red sea acquired its present shape over the past 4 to 5 million years, by slow seafloor spreading, a fact that makes it a geologically recent opening and one of the youngest oceanic zones on Earth.

- Today, the basin continues to widen at a rate of 1-2 cm per year

- Biodiversity:

- The unique habitats of the Red sea support a wide range of marine life, including sea turtles, dugongs, dolphins and many endemic fish species.

- Coral reefs mainly extend along the northern and central coasts, and decrease in abundance towards the southern region, as coastal waters become more turbid.

- The Reason why it is called Red Sea:

- There are various theories as to how the name came about, with the most popular being a reference to the seasonal blooms of *Trichodesmium erythraeum* (a red-colored algae) near the water's surface.

- Other scholars believe it is linked to the way Asiatic languages often use colors to refer to cardinal directions, with "red" referring to "south" just as the Black Sea may be referring to the north.

Joint Comprehensive Plan of Action

- In 2015, Iran with the P5+1 group of world powers - the US, UK, France, China, Russia, and Germany agreed on a long-term deal on its nuclear programme.

- The deal was named as Joint Comprehensive Plan of Action (JCPOA) and in common parlance as Iran Nuclear Deal.

- The deal came after years of tension over Iran's alleged efforts to develop nuclear weapons.

- Iran insisted that its nuclear programme was entirely peaceful, but the international community did not believe that.

- Under the JCPOA, Iran agreed to limit its nuclear activities by stopping uranium enrichment and allowing the international agencies to inspect its nuclear facilities in return for the lifting of economic sanctions.

- However, in May 2018, the USA pulled out of the JCPOA and threatened to impose sanctions on Iran and on nations doing a significant amount of trade with Iran.