

# General Studies

## Current Affair Test (April-2024)

### 1. Answer: (c) Statement 4 is incorrect.

The Central government has approved a new treatment regimen for leprosy, aiming to stop its transmission at the sub-national level by 2027, three years ahead of the UN's Sustainable Development Goals. The Ministry of Health and Family Welfare has decided to introduce a three-drug regimen for Pauci-Bacillary (PB) cases in place of a two-drug regimen for six months. According to the WHO, leprosy is a chronic infectious disease caused by the *Mycobacterium leprae* bacteria. The disease predominantly affects the skin and peripheral nerves. Left untreated, it may cause progressive and permanent disabilities. The bacteria are transmitted via droplets from the nose and mouth during close and frequent contact with untreated cases. Leprosy, reported from all the six WHO regions, is curable with multi-drug therapy (MDT). The majority of new cases detected annually are from South East Asia. The WHO's recommended treatment regimen consists of three drugs — dapsone, rifampicin and clofazimine.

### 2. Answer: (c)

The Indian Space Research Organisation (ISRO) has said that the INSAT-3DS satellite has been flagged off to the launch port at the Satish Dhawan Space Centre in Sriharikota. The INSAT-3DS satellite is an exclusive meteorological satellite realised by ISRO with the primary objective to provide continuity of services to the existing in-orbit INSAT-3D and 3DR satellites and significantly enhancing the capabilities of the INSAT system. The satellite is designed for enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning, with state-of-the-art payloads viz., 6 channel Imager and 19 channel Sounder meteorology payloads, communication payloads viz., the Data Relay Transponder (DRT) and Satellite aided Search and Rescue (SAS&R) transponder. The DRT instrument receives meteorological, hydrological and oceanographic data from automatic Data Collection Platforms / Automatic Weather Stations (AWS) and augments the weather forecasting capabilities. The SAS&R transponder is incorporated in the satellite to relay a distress signal / alert detection from the beacon transmitters for search and rescue services with global receive coverage.

### 3. Answer: (b)

Statement 1 is incorrect.

What are semiconductors?

Also known as microchips or integrated circuits, semiconductors are usually made from silicon, and consist of millions or billions of transistors that act like miniature electrical switches that flip on and off to process data such as images, radio waves, and sounds. They are practically inside every essential product of the modern world — from household appliances to sophisticated defence systems, mobile phones to cars, toys to high-end luxury products.

### 4. Answer: (d)

- Uranium enrichment process increases the proportion of U-235 through the process of isotope separation.
- For nuclear weapons, enrichment is required upto 90% or more which is known as Highly Enriched Uranium/weapons-grade uranium.
- For nuclear reactors, enrichment is required upto 3-4% which is known as Low Enriched Uranium/reactor grade uranium.

### 5. Answer: (c)

China also commands 60% of the total production of germanium. The element is used in fibre-optic cables, infrared imaging devices (used by enforcement agencies for surveillance, target acquisition and reconnaissance, particularly in the dark) and optical devices (to improve the ability to operate weapon systems in harsh conditions). They are also used in solar cells for their ability to withstand heat and higher energy conversion efficiency.

### 6. Answer: (c)

Guillain-Barré Syndrome is a rare neurological disorder where the body's immune system — which normally protects it from infections and other foreign bodies — mistakenly attacks its own peripheral nerve cells. A person with this syndrome will have difficulty speaking, walking, swallowing, excreting or performing other normal functions of the body. The condition can get progressively worse. Thus, the peripheral nerves — the nerves that branch out from the brain and the spinal cord — get damaged as a result, and the muscles can become weak or paralyzed. The exact reasons for Guillain-Barré Syndrome are not yet understood.

However, it often develops shortly after a person gets an infectious disease. Rarely, vaccinations can cause it. Guillain-Barré Syndrome, or GBS, also was linked to the cytomegalovirus, Epstein Barr virus, Zika virus and even the COVID-19 pandemic.

**7. Answer: (c)**

Scientists have made progress in understanding Huntington's disease by studying fruit flies (*Drosophila melanogaster*).

About the study:

- Huntington's disease patients carry a mutated version of the HTT gene, which codes for a protein called huntingtin (Htt).
- The mutated gene encodes an abnormal Htt protein, leading to the destruction of neurons regulating movement, thinking, and memory. Huntington's disease (HD) is an inherited disorder that causes nerve cells (neurons) in parts of the brain to gradually break down and die. The disease attacks areas of the brain that help to control voluntary (intentional) movement, as well as other areas.

**8. Answer: (b)**

Statement 2 is incorrect.

- Ammonia is a colourless, pungent gas with the chemical formula  $NH_3$ . It's made up of hydrogen and nitrogen. In its aqueous form, it's called ammonium hydroxide.
- Ammonia is a natural byproduct and respiratory stimulant. It's produced naturally in the human body and in nature, including in water, soil, and air. In human health, ammonia and the ammonium ion are important components of metabolic processes.
- In its concentrated form, ammonia is dangerous and caustic.

Signs and symptoms of ammonia exposure include:

- Nausea
- Vomiting
- Abdominal pain
- Burns of the mouth, throat, oesophagus, and stomach

**9. Answer: (b)**

Statement 2 is incorrect.

**10. Answer: (b)**

Statement 3 is incorrect. Classification based on Stem Cells formation at different times of human lives There are 3 types under this classification

- Embryonic stem cells
- Adult stem cells
- Induced pluripotent stem cells or iPSC's

What are Embryonic Stem cells?

These are the Stem cells that exist only during the earliest stage of development.

What are Adult Stem Cells?

- These are the cells that can multiply when there is a need to repair adult organs and tissues.
- These cells are present in almost all organs of the human body.
- They are multipotent i.e. they can give rise to a limited number of mature cell types, usually corresponding to the tissues in which they reside. A most well-known example is the blood-forming (hematopoietic) stem cells from bone marrow that give rise to different blood cells in our body.
- Some tissue-specific stem cells can only give rise to one or two mature cell types and are called unipotent and bipotent, respectively. Stem cells found in the skin produce new skin cells and are an example of unipotent stem cells.

What are induced pluripotent stem cells (iPSC's)?

- These cells are not found in the body but made in the laboratory from cells of the body.
- The iPSC cells have properties similar to those of embryonic stem cells.

**11. Answer: (c)**

- A transgene is a gene that has been transferred naturally, or by any of a number of genetic engineering techniques, from one organism to another. The introduction of a transgene, in a process known as transgenesis, has the potential to change the phenotype of an organism.
- Transgene describes a segment of DNA containing a gene sequence that has been isolated from one organism and is introduced into a different organism.
- This non-native segment of DNA may either retain the ability to produce RNA or protein in the transgenic organism or alter the normal function of the transgenic organism's genetic code. In general, the DNA is incorporated into the organism's germ line.

**12. Answer: (d)**

The ergosphere is a region surrounding a rotating black hole, located between the event horizon and the stationary limit. In this area, space-time itself is dragged along with the rotation of the black hole. Objects within the ergosphere are forced to rotate along with the black hole's spin due to the distortion of spacetime caused by its immense gravitational pull. The event horizon, on the other hand, is a theoretical boundary around a black hole beyond which no radiation can escape.

**13. Answer: (c)**

India has already decided to build a gravitational wave detector to join the international LIGO (Laser Interferometer Gravitational Wave Observatory) network, and is a full member of the ITER project, which is working to harness energy from nuclear fusion reactions. India also has a strong participation in the Large Hadron Collider (LHC), the world's largest and most powerful particle accelerator that is running some of the most exciting experiments in particle physics.

**14. Answer: (a)**

Only Statement 3 is correct.

The Square Kilometer Array will not be a single large telescope, but a collection of thousands of dish antennas operating as a single unit. The name, Square Kilometer Array, comes from the original intention to create one square kilometre (one million square metre) of effective area for collecting radio waves. This was meant to be achieved by installing thousands of smaller antennas in a specific array design that would make them function like a single radio telescope. The antennas, about 200 of them in South Africa and more than 130,000 in Australia, are being installed in sparsely populated locations, chosen to ensure they are as far away from human activities as possible. This has been done in order to minimise signal interference from undesirable Earth-based sources. Though none of the SKA facilities would be located in India, there are immense science and technology gains for the country by participating in the project as a full member. The intellectual properties generated by the project, though owned by the SKA Observatory, would be accessible to all the member countries.

**15. Answer: (b)**

Statement 3 is incorrect.

The first detection of gravitational waves was announced on February 11, 2016. These had been predicted, almost exactly a century ago by Albert Einstein as a natural consequence of his theory of gravity — the Theory of General Relativity. General Relativity implies that under certain circumstances, space itself would be stretched and compressed resulting in the production of gravitational waves — much like throwing a stone in a placid pool of water. Since gravitational waves were first detected by LIGO (Laser Interferometry Gravitational-wave Observatory), its detectors have observed dozens of short high-frequency gravitational wave bursts. These high-frequency waves are thought to be a result of collisions of black holes — about as massive as our Sun — as well as of neutron stars. Black

holes and neutron stars are stellar remnants of stars which have exhausted their nuclear fuel.

**16. Answer: (d)**

Each person's DNA, except for identical twins, is unique. By analyzing selected DNA sequences (called loci), a crime laboratory can develop a profile to be used in identifying a suspect. DNA can be extracted from many sources, such as hair, bone, teeth, saliva, and blood. Because there is DNA in most cells in the human body, even a minuscule amount of bodily fluid or tissue can yield useful information. Samples may even be extracted from used clothes, linen, combs, or other frequently used items.

**17. Answer: (d)**

Important Dimensions of India-Russia Relations: International/Multilateral Organisations and Connectivity Projects BRICS, SCO, G20, International North-South Transport Corridor (INSTC)

**18. Answer: (d)**

The joint statement — 'Horizon 2047: 25th Anniversary of the India-France Strategic Partnership, Towards A Century of India-France Relations' — lays out a roadmap for the bilateral relationship till 2047.

**19. Answer: (d)**

"In the UN's Convention on the Prevention and Punishment of the Crime of Genocide, genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such:

- (a) Killing members of the group;
- (b) Causing serious bodily or mental harm to members of the group;
- (c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
- (d) Imposing measures intended to prevent births within the group;
- (e) Forcibly transferring children of the group to another group.

**20. Answer: (d)**

The Boao Forum for Asia (BFA) is a non-profit organisation that hosts high-level forums for leaders from government, business and academia in Asia and other continents to share their vision on the most pressing issues in this region and the world at large. BFA is modelled on the World Economic Forum held annually in Davos.

**21. Answer: (b)**

Statement 2 is incorrect. According to the International

Union for Conservation of Nature (IUCN), the extraction of mineral resources from the ocean below 200 metres is called deep sea mining. Deep Sea Conservation Coalition (DSSC), an initiative formed in 2004 to safeguard deep-sea ecosystems. India has been granted two exploration contracts from the ISA so far – one for polymetallic nodules, and one for polymetallic sulphides.

**22. Answer: (c)**

The Healthy Indian Project (THIP), a health information platform in India, has joined the World Health Organization's Vaccine Safety Net (VSN), a global network of websites providing trustworthy vaccine safety information. The Vaccine Safety Net (VSN) is a global network of websites that provide reliable information on vaccine safety. The VSN is an initiative of the World Health Organization (WHO). The VSN is a diverse group of websites that provide vaccine safety information in various languages.

**23. Answer: (d)**

The two countries signed a Friendship Treaty in 1955, and India's support to Egypt, including during the Suez Canal crisis in 1956, eventually led to the Non-Aligned Movement in 1961, with both as founder members. They were also instrumental in the G-77 grouping and "South-South Cooperation" initiatives.

**24. Answer: (b)**

Statement 1 and 4 is correct.

Pardon: Removes sentence and conviction, absolves from all sentences, punishments, and disqualifications.

Commutation: Substitution of a harsher punishment with a lighter one (e.g., death sentence to rigorous imprisonment).

Remission: Reducing the sentence period without changing its character.

Respite: Awarding a lesser sentence due to special circumstances

Reprieve: Temporary stay of sentence execution to seek pardon or commutation

**25. Answer: (b)**

Statement 2 is incorrect. Khaps are mainly gotra – clans tracing their paternal lineage to a common ancestor – and region-based social outfits. They derive their name either from the number of villages/clusters of villages or the gotras they represent. khaps used to have three kinds of functions – settle familial/village disputes, maintain/protect the tenets of the faith, and protect the area from outside invasion. Today, the last function is largely irrelevant. The major function of khaps today is to settle disputes and ensure that social and religious custom is enforced in their area. With regards to

leadership and succession, a defining feature of khaps is that they do not have a set organisation. While earlier, succession as a khap president/leader was hereditary, now, that is not necessarily the case. To preside over a meeting of a particular khap or a group of khaps, the chairman of the same is nominated unanimously and on the spot. As largely there are no defined rules to elect president of a khap, in many cases more than one person claims to be head of a particular khap – causing fights and disputes. There are nearly 300 main khaps in north India – in the states of Haryana, Uttar Pradesh, Delhi, Rajasthan and Uttarakhand.

**26. Answer: (c)**

Article 25 lays down an individual's fundamental right to religion; Article 26(b) upholds the right of each religious denomination or any section thereof to "manage its own affairs in matters of religion"; Article 29 defines the right to conserve distinctive culture. An individual's freedom of religion under Article 25 is subject to "public order, health, morality" and other provisions relating to fundamental rights, but a group's freedom under Article 26 has not been subjected to other fundamental rights.

**27. Answer: (b)**

Statement 2 is incorrect. In India, the Constitution gives the government the right to levy taxes on individuals and organisations, but makes it clear that no one has the right to levy or charge taxes except by the authority of law. Any tax being charged has to be backed by a law passed by the legislature or Parliament. Taxes in India come under a three-tier system based on the Central, State and local governments, and the Seventh Schedule of the Constitution puts separate heads of taxation under the Union and State list. There is no separate head under the Concurrent list, meaning Union and the States have no concurrent power of taxation.

**28. Answer: (a)**

Only Statement 2 is correct. In a historic move, the Supreme Court designated 11 women lawyers as senior advocates, a first in a single round of appointments. A committee led by Chief Justice of India D Y Chandrachud designated a total of 56 lawyers and advocate-on-record (AoR) as senior advocates. This marked a significant moment for gender representation in senior legal roles. Senior advocates in India have certain privileges, including a separate dress code, priority in court hearings, and the right to sit in a designated area of the court. However, they are not allowed to advertise, solicit clients, or directly contact clients for work. An Advocate-on-Record (AOR) is a legal professional who can practice before the Supreme

Court of India. They are entitled to act and plead for a party in the Supreme Court.

**29. Answer: (b)**

Statement 2 is incorrect.

FC is a body set up under Article 280 of the Constitution. Its primary job is to recommend measures and methods on how revenues need to be distributed between the Centre and states. There are no-ex officio members of the commission as such, because it is constituted afresh every five years. Besides suggesting the mechanism to share tax revenues, the Commission also lays down the principles for giving out grant-in-aid to states and other local bodies. The commission has to take on itself the job of addressing the imbalances that often arise between the taxation powers and expenditure responsibilities of the centre and the states, respectively.

**30. Solution: (d)**

The Indian Preamble, based on the Objectives Resolution, was moved by Jawaharlal Nehru in the Constituent Assembly on 13 December 1946 and adopted on 26 November 1949. It came into force on 26 January 1950, Republic Day. During the Indian emergency, Indira Gandhi amended it to include the words “socialist,” “secular,” and “integrity.” (42nd Amendment Act of 1976). It signifies the principle of popular sovereignty, emphasizing that power resides with the citizens, not just the government.

**31. Answer: (b)**

Article 142 of the Constitution of India gives the Supreme Court the power to pass any decree or make any order to ensure complete justice in any matter pending before it. Any decree so passed or order so made shall be enforceable throughout the territory of India.

**32. Solution: (d)**

Part IV (Articles 36-51) covers a wide range of principles, including (apart from the UCC), the securing of equal justice and free legal aid to citizens (Art 39A), participation of workers in the management of industries (Art 43A), organisation of agriculture and animal husbandry (Art 48), protection and improvement of the environment and safeguarding of forests and wildlife (Art 48A), promotion of international peace and security (Art 51), etc.

**33. Answer: (c)**

The Constitution (First Amendment) Bill sought to make several consequential changes — from exempting land reforms from scrutiny to providing protections for backward classes in the Constitution. Notably, it

also expanded on the scope of the restrictions on the right to free speech.

**34. Solution: b)**

Article 348 of the Constitution states that the authoritative texts of all Acts passed by Parliament or State legislatures shall be in the English Language. The legal regime in place provides that English shall remain an official language until resolutions for the discontinuance of English as an official language are adopted by State Legislatures and by Parliament.

**35. Answer: (b)**

Statement 1 is incorrect. The Indian Navy has unveiled new epaulettes for Admirals, inspired by the naval ensign and Chhatrapati Shivaji's rajmudra, as part of an initiative to reflect India's rich maritime heritage and move away from British nomenclature. Chhatrapati Shivaji Maharaj's Rajmudra is a royal seal and symbol of his dream of a Maratha Swarajya. The seal includes Sanskrit inscriptions that express Shivaji's gratitude to his father and his commitment to ruling his land independently and the welfare of his subjects. The Rajmudra's text is in Sanskrit, unlike other royal seals from the time, which were usually carved in Persian.

**36. Answer: (a)**

Only Statement 1 is correct. Lothal was one of the southernmost sites of the Indus Valley civilization, located in the Bhāl region of what is now the state of Gujarat. The port city is believed to have been built in 2,200 BC. Lothal was nominated in April 2014 as a UNESCO World Heritage Site, and its application is pending on the tentative list of UNESCO. As per the nomination dossier submitted to UNESCO, “The excavated site of Lothal is the only port-town of the Indus Valley Civilisation. A metropolis with an upper and a lower town had in on its northern side a basin with vertical wall, inlet and outlet channels which has been identified as a tidal dockyard.

**37. Answer: (c)**

Kapilvastu is in southern Nepal, near the Indian border. Lumbini is a Buddhist pilgrimage site in Nepal. It is the place where, according to Buddhist tradition, queen Maya gave birth to Siddhartha Gautama at around 566 BCE.

**38. Answer: (b)**

Statement 1 is incorrect.

- The Subika painting style is deeply connected to the Meitei community's cultural history through its six surviving manuscripts – Subika, Subika Achouba, Subika Laishaba, Subika Choudit, Subika Cheithil and Thengrakhel Subika.

- The paintings are a composition of cultural motifs created by pre-existing features and other influences. However, the Subika painting style is nearly extinct due to neglect.
- The Subika Laishaba is a composition of cultural motifs influenced by the cultural worldviews of the community.
- Its illustrations incorporate visual elements like lines, shapes, forms, colours, and patterns.
- These visual images serve as cultural motifs, creating visual effects and expressing cultural significance.
- The paintings are done on handmade paper, and the materials for manuscripts, such as handmade paper or tree bark, are prepared locally.

**39. Answer: (c)**

The Kamakhya Temple is a significant pilgrimage site and one of the largest Shakti shrines in India. It is located on the Nilachal hills in Guwahati, Assam. The temple is dedicated to the goddess Kamakhya and is a centre of Tantric practices. It is also the site of the Ambubachi Mela, an annual festival that celebrates the goddess's menstruation. PM-DevINE is a Central Sector scheme introduced in the Union Budget 2022-23. It aims to fund infrastructure projects and support social development initiatives in the North-East Region (NER). Implemented by the Ministry of Development of the North-East Region, it focuses on ensuring connectivity, addressing critical issues, and empowering youth and women in the NER. Source

**40. Answer: (c)**

Seven products from Odisha, ranging from the Similipal Kai chutney made with red weaver ants to the embroidered Kapdaganda shawl, have bagged the coveted Geographical Indication (GI) tag. Woven and embroidered by the women of the Dongria Kondh tribe, a particularly vulnerable tribal group (PVTG) in the Niyamgiri hills in Odisha's Rayagada and Kalahandi districts, the shawl reflects the rich tribal heritage of the Dongria Kondhs. The shawl is worn by both men and women and the Dongrias gift it to their family members as a token of love and affection.

**41. Answer: (c)**

What was the Ulgulan movement?

The Ulgulan movement of 1899 also involved the use of weapons and guerrilla warfare to drive out foreigners. Munda encouraged the tribals to refuse following colonial laws and paying rent. He encouraged changes in the social sphere too, challenging religious practices to fight against superstition, and became known as 'Bhagwan' (God) and 'Dharati Aba' (Father of the earth) by his followers. But the British were soon able

to halt the movement. On March 3, 1900, Munda was arrested by the British police while he was sleeping with his tribal guerilla army at Jamkopai forest in Chakradharpur.

**42. Answer: (b)**

Statement 3 is incorrect. The Cabinet Committee on Economic Affairs, has approved the Minimum Support Prices (MSPs) for copra for the 2024 season. Copra is the dried, white flesh of the coconut. It's a major cash crop and is valued for the coconut oil that can be extracted from it. The palatable oil cake, known as copra cake, obtained as a residue in the production of copra oil is used in animal feeds.

**43. Answer: (b)**

Statement 2 is incorrect. The National Research Centre on Litchi (NRCL), has successfully expanded litchi cultivation to 19 states in India. Litchi cultivation for commercial production has commenced in states such as Andhra Pradesh, Tamil Nadu, Karnataka, Uttar Pradesh, Himachal Pradesh, and others.

About Litchi:

- Litchi (*Litchi chinensis*) is a small, oval roundish fruit that is native to Southeast Asia. It is a member of the soapberry family (Sapindaceae) and is also known as lychee or lichee.
- Litchi is a sensitive fruit, influenced by temperature, rainfall, humidity, and soil conditions.
- The fruit primarily grows in the foothills of the Himalayas, with Bihar alone contributing nearly 40% of India's litchi production. Litchi fruit contains a toxin, methylene cyclopropyl-glycine (MCPG), which is known to be fatal by causing encephalitis-related deaths. This is especially harmful when consumed by malnourished children.

**44. Answer: (c)**

Fertigation is a method of fertilizer application in which fertilizer is incorporated within the irrigation water by the drip system. In this system fertilizer solution is distributed evenly in irrigation. By this method, fertilizer use efficiency is increased from 80 to 90 per cent as they are delivered directly to roots via drip. As water and fertilizer are supplied evenly to all the crops through fertigation there is possibility for getting 25-50 per cent higher yield. Urea, potash and highly water soluble fertilizers are available for applying through fertigation. Urea is well suited for injection in the micro irrigation system. It is highly soluble and dissolves in non-ionic form, so that it does not react with other substances in the water. Drip irrigation (using fertigation) also avoids water spillage on the field which could have promoted weed growth.

So, fertigation also helps control weed growth.

**45. Answer: (b)**

Statement 1 is incorrect. Agriculture subsidies can be direct or indirect farm subsidies taking account the instruments used in providing them. Direct Farm subsidies involve giving cash to the farmers. India provides direct subsidies in a limited form which include giving food subsidy or MSP-based procurement, etc. These are the kinds of subsidies in which direct cash incentives are paid to the farmers in order to make their products more competitive in the global markets. Indirect farm subsidies: These are the farm subsidies which are provided in the form of cheaper credit facilities, farm loan waivers, reduction in irrigation and electricity bills, fertilizers, seeds and pesticides subsidy as well as the investments in agricultural research, environmental assistance, farmer training, etc.

**46. Answer: (d)**

In all, the conventional transplanting route requires some 28 irrigations. It can go up if high temperatures force more frequent watering, and go down if there is enough rain. Direct seeding versus transplanting That's where direct seeding of rice (DSR) comes in. Paddy here is sown directly in the field without any nursery preparation, puddling or flooding. In transplanting, the flooded fields basically deny oxygen to the weed seeds in the soil, preventing their germination. Water, thus, acts as a natural herbicide. In DSR, water is replaced with chemical herbicides. DSR is effective against weeds and saves water compared to transplanting.

**47. Answer: (b)**

Statement 2 is incorrect. Jeera is an extremely weather-sensitive crop. It requires a moderately cool and dry climate sans any humidity, which is conducive for fungal infestation during the crop's flowering and seed development stages. That naturally limits the area of cultivation to Saurashtra, Kutch and the northern parts of Gujarat and adjoining districts of western Rajasthan such as Jalore, Barmer, Jodhpur, Jaisalmer, Pali and Nagaur. Unjha, enjoying the strategic advantage of being in the centre of the country's jeera cultivation belt, has become the price-setting market for the crop. India accounts for some 70% of the world's production of this seed spice. Other countries such as Syria, Turkey, UAE and Iran make up the balance 30%. India's jeera production is meant for both its domestic market as well as for export. The top export destinations include China, Bangladesh, US, UAE, Pakistan, Saudi Arabia and Turkey. China has been importing Indian cumin aggressively.

**48. Answer: (a)**

Agriculture being a State subject, the State Government is primarily responsible for the growth and development of agriculture sector and developing perspective plans for their respective States and ensuring effective implementation of the programmes/schemes. However, Government of India supplements the efforts of the State Governments through various Schemes / Programmes.

**49. Answer: (d)**

There are mainly three cropping seasons in India (i) Kharif (ii) Rabi (iii) Zaid. The Kharif season corresponds to the rainy season, and Rabi season with the winter. The short period in between the harvest of the Rabi crops and the sowing of the Kharif crops is called the Zaid season.

**50. Answer: (b)**

The pricing of sugarcane is governed by the statutory provisions of the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act (ECA), 1955. Prior to 2009-10 sugar season, the Central Government was fixing the Statutory Minimum Price (SMP) of sugarcane and farmers were entitled to share profits of a sugar mill on 50:50 basis. As this sharing of profits remained virtually unimplemented, the Sugarcane (Control) Order, 1966 was amended in October, 2009 and the concept of SMP was replaced by the Fair and Remunerative Price (FRP) of sugarcane. The centre's decision on Fair and Remunerative Price (FRP) of sugarcane is based on the recommendation of Commission for Agricultural Costs and Prices (CACP).

**51. Answer: (b)**

Statement 3 is incorrect. The Union Cabinet, approved the extension of the Animal Husbandry Infrastructure Development Fund (AHIDF) to be implemented under the Infrastructure Development Fund (IDF). The Animal Husbandry Infrastructure Development Fund (AHIDF) was announced under the Atma Nirbhar Bharat Abhiyan. The objective of AHIDF is to incentivize investments by various entities, including individual entrepreneurs, private companies, MSMEs, Farmers Producers Organizations (FPOs), and Section 8 companies, in establishing dairy processing and value addition infrastructure, meat processing and value addition infrastructure, and animal feed plants.

**52. Answer: (b)**

Statement 2 is incorrect. Koraput Kala Jeera Rice The black-coloured rice variety, also known as the 'Prince of Rice', is famous for its aroma, taste, texture and nutritional value. Tribal farmers of the Koraput region

have preserved the rice variety for around 1,000 years. As the rice grains resemble cumin seeds, it is also called Kala Jeera. Consumption of the rice variety helps in increasing haemoglobin levels and improves metabolism in the body. The farmers and producers of Koraput Kala Jeera rice have followed the traditional knowledge and practices in cultivation. Ancient tales also speak about the physical, mental and spiritual delights resulting from the consumption of the rice variety.

**53. Answer: (b)**

Operation Bluestar was an Indian Army operation carried out in June 1984 in the Golden Temple in Amritsar, Punjab, to flush out militants.

**54. Answer: (d)**

The dual control structure: Its uniqueness lies in the fact that Assam Rifles is the only paramilitary force with a dual control structure. While the administrative control of the force is with the MHA, its operational control is with the Indian Army, which is under the Ministry of Defence (MoD). This means that salaries and infrastructure for the force is provided by the MHA, but the deployment, posting, transfer and deputation of the personnel is decided by the Army. In some ways, the force is the only central paramilitary force (CPMF), as its operational duties and regimentation are on the lines of the Indian Army. However, being a Central Armed Police force under MHA, its recruitment, perks, promotion of its personnel and retirement policies are governed according to the rules framed by the MHA for CAPFs.

**55. Answer: (c)**

A bot is a software application that is programmed to do certain tasks. Bots are automated, which means they run according to their instructions without a human user needing to manually start them up every time. Bots often imitate or replace a human user's behaviour. Typically, they do repetitive tasks, and they can do them much faster than human users could. Bots usually operate over a network; more than half of Internet traffic is bots scanning content, interacting with webpages, chatting with users, or looking for attack targets. Some bots are useful, such as search engine bots that index content for search or customer service bots that help users. Other bots are "bad" and are programmed to scan the web for contact information for sending spam, or perform other malicious activities. If it's connected to the Internet, a bot will have an associated IP address.

Bots can be:

- Chatbots: Bots that simulate human conversation

by responding to certain phrases with programmed responses

- Web crawlers (Googlebots): Bots that scan content on webpages all over the Internet
- Social bots: Bots that operate on social media platforms
- Malicious bots: Bots that scrape content, spread spam content, or carry out credential stuffing attacks

**56. Answer: (c)**

Option 3 is incorrect. Joint military exercises like Varuna, Garuda, and Shakti, along with joint manufacturing initiatives, exemplify the depth of defence cooperation.

**57. Answer: (a)**

Only statement 1 is correct.

What is the Global Slavery Index? The index presents a global picture of modern slavery. It is constructed by Walk Free, a human rights organisation and is based on data provided by the Global Estimates of Modern Slavery, which, in turn, is produced by International Labour Organization (ILO), Walk Free, and International Organization for Migration (IOM). The Sustainable Development Goals (SDGs) of the United Nations also resolve to end modern slavery.

Target 8.7 of the SDGs states: "Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms."

**58. Answer: (a)**

Only Statement 3 is correct. INDIA ranked 93 out of 180 countries on the corruption perceptions index (CPI) for 2023, according to the latest report released by Transparency International. The index, which lists countries by their perceived levels of public sector corruption, ranked Denmark at the top, followed by Finland, New Zealand and Norway. The index uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean. In 2023, India's overall score was 39 while in 2022, it was 40. India's rank in 2022 was 85. In the Asian region, Singapore ranked at the top, scoring 83 and occupying the fifth slot. Western Europe and the European Union remained the top-scoring regions.

**59. Answer: (d)**

The 2023 World Trade Report, published by the WTO, explores the role of international trade in building a more secure, inclusive, and sustainable world. The report addresses the shift in the narrative around globalization. It emphasizes policy goals beyond trade efficiency, including peace, security, poverty



reduction, and sustainability. The report advocates for “reglobalization,” expanding trade integration to more economies, people, and issues.

**60. Answer: (d)**

According to the latest report on “The State of the World’s Forests” by the Food and Agricultural Organization of the United Nations (FAO), forests cover 31% of the Earth’s land surface (4.06 billion hectares) out of which approximately one-third (34%) are primary forests.

**61. Answer: (d)**

**62. Answer: (b)**

The Gaza Strip is a self-governing Palestinian territory on the eastern coast of the Mediterranean Sea. It borders Egypt on the southwest and Israel on the east and north.

**63. Answer: (b)**

Option 1 and 3 is correct. The Red Sea is a seawater inlet of the Indian Ocean, lying between Africa and Asia. The connection to the ocean is in the south through the Bab el Mandeb strait and the Gulf of Aden. To the north lie the Sinai Peninsula, the Gulf of Aqaba, and the Gulf of Suez. The six countries bordering the Red Sea are: Saudi Arabia, Yemen, Egypt, Sudan, Eritrea and Djibouti.

**64. Answer: (c)**

Option 4 is incorrect. Jordan is a country in West Asia, located at the crossroads of Asia, Africa, and Europe in the Levant region. Bordered by Saudi Arabia, Iraq, Syria, and the Palestinian West Bank and Israel, Jordan has a coastline on the Gulf of Aqaba’s Red Sea.

**65. Answer: (a)**

Only Statement 2 is correct. The Mekong River is a significant transboundary river in East and Southeast Asia, ranked as the world’s twelfth longest and Asia’s third-longest. It originates from the Tibetan Plateau. Despite being a crucial trade route between Tibet and Southeast Asia, its extreme seasonal fluctuations and natural obstacles like rapids and waterfalls pose challenges to navigation.

**66. Answer: (d)**

Originating from the Tibetan Plateau, it flows through Southwest China, Myanmar, Laos, Thailand, Cambodia, and southern Vietnam. 1

**67. Answer: (d)**

Today, GWR has over 75 adjudicators across the world, who determine whether a record has been broken or not. There is even an application process – one can apply to invite an adjudicator to witness a record being broken. However, there are some strict criteria that make a Guinness World Record. A record must satisfy all of the following criteria to count.

- It should be objectively measurable.
- It should be breakable – it cannot be something so unique that only one person can do it.
- Similarly, it should also be standardisable with a possibility to create a set of parameters and conditions that all challengers can follow.
- It should be verifiable.
- It should be based on only one variable.
- It should be the best in the world. For any new record, GWR sets a minimum standard that has to be met for the record to be broken.

**68. Solution: (b)**

Shankar Mahadevan and Zakir Hussain’s fusion band Shakti earned recognition at the 66th Grammy Awards in Los Angeles, winning the Global Music Album award for their album “This Moment.” The Grammy Awards, often referred to simply as the Grammys, is an annual ceremony recognizing outstanding achievements in the music industry. Hosted by the Recording Academy, the awards cover various genres and categories, including pop, rock, rap, country, classical, and more. Winners are selected through a voting process involving music industry professionals.

**69. Solution: (a)**

The Supreme Court has clarified in a judgment that the Enforcement Directorate (ED) need not furnish a person accused under the Prevention of Money Laundering Act (PMLA) with a copy of the grounds of detention at the time of his arrest. The judgment comes amid debate that non-communication of the grounds of arrest was a violation of Article 22(1) of the Constitution, which upholds the fundamental right of any person who is in custody to be informed as to why he has been arrested.

**70. Answer: (b)**

Statement 3 is incorrect.

**71. Answer: (a)**

Only Statement 1 is correct. The Rajya Sabha’s Subordinate Legislation Committee has criticized the Union government for prolonged delays in framing rules for Acts passed by Parliament. What are Subordinate Legislations? Subordinate legislations are laws or regulations created by authorities to implement and administer the broader statutes passed by the legislature. These regulations, also known as delegated or secondary legislation, provide detailed guidelines and procedures necessary for the effective enforcement of primary laws. Although the concept of delegated legislation was not mentioned specifically in the Indian Constitution it can be understood by interpreting Article 312.

**72. Answer: (b)**

Statement 3 is incorrect.

The Committee on Subordinate Legislation in Rajya Sabha is formed under Rule 204 of the Rules of Procedure and Conduct of Business in the Council of States. Its mandate involves scrutinizing and reporting to the House on the proper exercise of powers to make rules, regulations, bylaws, schemes, etc., as conferred by the Constitution or delegated by Parliament.

**73. Answer: (c)**

The Supreme Court has reaffirmed its judgement in the Menaka case in the subsequent cases. It has declared the following rights as part of Article 21: (1) Right to live with human dignity. (2) Right to decent environment including pollution free water and air and protection against hazardous industries. (3) Right to livelihood. (4) Right to privacy. (5) Right to shelter. (6) Right to health. (7) Right to free education up to 14 years of age. (8) Right to free legal aid. (9) Right against solitary confinement. (10) Right to speedy trial. (11) Right against handcuffing. (12) Right against inhuman treatment. (13) Right against delayed execution. (14) Right to travel abroad. (15) Right against bonded labour. (16) Right against custodial harassment. (17) Right to emergency medical aid. (18) Right to timely medical treatment in government hospital. (19) Right not to be driven out of a state. (20) Right to fair trial. (21) Right of prisoner to have necessities of life. (22) Right of women to be treated with decency and dignity. (23) Right against public hanging. (24) Right to hearing. (25) Right to information. (26) Right to reputation. (27) Right of appeal from a judgement of conviction (28) Right to social security and protection of the family (29) Right to social and economic justice and empowerment (30) Right against bar fetters (31) Right to appropriate life insurance policy (32) Right to sleep (33) Right to freedom from noise pollution (34) Right to electricity

**74. Solution: (b)**

Statement 2 is incorrect. There are three All India Services – the Indian Administrative Service, the Indian Police Service and the Indian Forest Service – which are selected by the central government with officers allotted to various state cadres. The Centre then gets a certain percentage of officers from each state on central deputation. These bureaucrats work directly for the Centre. All India Services are governed by Article 312 of the Constitution of India. Other services are called Central Civil Services. These services are under the central government itself with no state cadre system. They include services such as the Indian Foreign Service, the Indian Revenue Service, Customs

and Central Excise Service and several others.

**75. Answer: (d)**

- The size of the State Legislative Council cannot be more than one third of the membership of the State Legislative Assembly. However, its size cannot be less than 40 members.
- Before the 91st Amendment Act (2003), the convention of appointing a lot of ministers on the council due to political reasons led to widespread abuse of the system.
- It led to very large size of the Council of Ministers. Besides, when no party had a clear majority, there was a temptation to win over the support of the members of the Parliament by giving them ministerial positions as there was no restriction on the number of the members of the Council of Ministers.
- This was happening in many States also. Therefore, an amendment was made that the Council of Ministers shall not exceed 15 percent of total number of members of the House of People (or Assembly, in the case of the States).

**76. Answer: (a)**

Article 2 of the Constitution grants two powers to the parliament: the power to admit into the Union new states and the power to establish new states. It does not deal with the formation of or changes in the existing states of the Union. Article 3 deals with the internal re-adjustments of the territories. Hence, the increase in area of any state and altering the boundaries of states comes under the purview of Article 3.

**77. Solution: b)**

Statement 2 is incorrect. Rules regarding borrowing by States: • States in India have a normal net borrowing ceiling set at 3% of Gross State Domestic Product (GSDP) for the fiscal year 2024, as per the Fifteenth Finance Commission's recommendation. Additionally, states receive an extra 0.5% of GSDP in borrowing capacity as a performance-based incentive for power sector reforms, enabling them to borrow 1.43 lakh crore for FY24 based on the Ministry of Power's recommendation.

- Constitutionally, Article 293(3) stipulates that a state cannot raise a loan without the consent of the Government of India if any part of a previous loan from the central government remains outstanding.

**78. Solution: b)**

Statement 2 is incorrect. Parliament can also constitute a Joint Parliamentary Committee (JPC) with a special purpose, with members from both Houses, for detailed scrutiny of a subject or Bill. Also, either of the two

Houses can set up a Select Committee with members from that House. JPCs and Select Committees are usually chaired by ruling party MPs, and are disbanded after they have submitted their report. The time to speak on a Bill is allocated according to the size of the party in the House. MPs often do not get adequate time to put forward their views in Parliament, even if they are experts on the subject. Committees are small groups with relatively less demands on their time; in these meetings, every MP gets a chance and the time to contribute to the discussion. Parliament has only around 100 sittings a year; Committee meetings are independent of Parliament's calendar. There are 16 Departmentally Related Standing Committees for Lok Sabha and eight for Rajya Sabha; however, every Committee has members from both Houses. Lok Sabha and Rajya Sabha panels are headed by members of these respective Houses.

**79. Solution: (c)**

In the 1919 plan for the construction of the Parliament, it was decided to have a council house, comprising a Legislative Assembly Chamber (which later became the Lok Sabha), a Council of States Chamber (which is now the Rajya Sabha) and the Chamber of Princes. The Chamber of Princes is the Library Hall in the Old Parliament. The Chamber of Princes, also known as Narendra Mandal, was established in 1920 by a Royal Proclamation of King Emperor George V to advocate the common interests of British India and the princely states. In 1937, the Federal Court of India began functioning from the Chamber of Princes. It was 12 years later that in this building, the Supreme Court of India was inaugurated. "The inaugural proceedings were simple but impressive," according to the official account of the Supreme Court.

**80. Solution: (c)**

Article 298 grants the Centre and the state governments the power to carry on trade or business, acquire, hold, and dispose of property, and make contracts for any purpose, while Article 299 delineates the manner in which these contracts will be concluded. Articles 298 and 299 came after the Constitution came into effect and the government entered into contracts even in the pre-independence era. According to the Crown Proceedings Act of 1947, the Crown could not be sued in court for a contract it entered into. Article 299 of the Constitution provides that "all contracts made in the exercise of the executive power of the Union or of a State shall be expressed to be made by the President or by the Governor of the State" and that all such contracts and "assurances of property made in the exercise of that

power shall be executed" on behalf of the President or the Governor by persons in a manner as directed and authorised by them. The objective behind Article 299 (1), as per the 1954 top court ruling in 'Chatturbhuj Vithaldas Jasani v. Moreshwar Parashram & Ors', is that there must be a definite procedure according to which contracts must be made by agents acting on the government's behalf; otherwise, public funds may be depleted by unauthorized or illegitimate contracts. It implies that contracts not adhering to the manner given in Article 299(1) cannot be enforced by any contracting party. However, Article 299 (2) says that essentially, neither the President nor the Governor can be personally held liable for such contracts.

**81. Solution: d)**

**82. Answer: (a)**

Only Statement 3 is correct. Jallikattu, also known as eruthazhuvuthal, is a bull-taming sport traditionally played in Tamil Nadu as part of the Pongal harvest festival. The festival is a celebration of nature, and thanksgiving for a bountiful harvest, of which cattle-worship is part. The Animal Welfare Board of India is a statutory advisory body on Animal Welfare Laws and promotes animal welfare in the country. Established in 1962 under Section 4 of the Prevention of Cruelty to Animals Act, 1960. Entry 17 of List III of the Seventh Schedule to the Constitution which relates to the prevention of cruelty to animals.

**83. Solution: c)**

While Uttaramerur has multiple inscriptions spanning centuries, the most famous one is from the reign of Parantaka I (907-953 AD). These provide a detailed description about the village's self-governance and have been cited by historians and political leaders alike as evidence of India's history of democratic functioning. Uttaramerur lies in present-day Kanchipuram district, approximately 90 km southeast of Chennai. It is known for its historic temples built during Pallava and Chola rule. The inscription found there is like a local constitution for the gram sabha. It tells how the assembly should be run, what should be the qualification of members, what should be the process to elect the members, and how a member would be disqualified.

**84. Answer: (b)**

Statement 1 is incorrect. The Dancing Girl figurine was discovered in Mohenjodaro in 1926. Even though Mohenjodaro and Harappa became part of Pakistani territory after the Partition, the Dancing Girl remained in India as part of an agreement. Today, the bronze figurine sits in the National Museum of

India. The Dancing Girl is evidence of the civilisation's knowledge of metal blending and lost-wax casting – a complicated process by which a duplicate sculpture is cast from an original sculpture to create highly detailed metallic artefacts.

**85. Answer: (b)**

Statement 1 is incorrect. What is Kongsachem? It is an important harvest festival celebrated in Goa, primarily in August. Both Hindus and Catholics participate in their unique ways. The festival involves blessing the first sheaves of rice when harvested.

**86. Answer: (d)**

Cropping pattern: It is a dynamic concept because it changes over space and time. It can be defined as the proportion of area under various crops at a point of time. In other words, it is a yearly sequence and spatial arrangement of sowing and fallow on a given area. In India, the cropping pattern determined by rainfall, climate, temperature, soil type and technology.

**87. Solution: b)**

Statement 2 is incorrect. Advantages of Indian raw sugar in the International Market:

- Season advantage: India's crushing is from October to April, whereas Brazilian mills operate from April to November. Hence, importers are utilising Indian raw sugar during Brazil's off-season.
- Freight cost savings: India is much closer to its major sugar importers (compared to Brazil) and therefore less freight cost.
- Indian sugar is free of dextran: Dextran is a bacterial compound formed when sugarcane stays in the sun for too long after harvesting.
- Indian raw sugar has no dextran, as it is produced from fresh cane crushed within 12-24 hours of harvesting (compared to 48 hours or more in Brazil)

India's sugar has a higher % of sucrose present.

**88. Solution: (a)**

Only Statement 3 is correct.

**89. Answer: (c)**

Mixed Cropping: When two or more crops are grown on an equivalent land simultaneously, it's referred to as mixed cropping. For example, growing wheat and gram on an equivalent land at an equivalent time is mixed cropping. The practice of this method helps to minimize the risk of the failure of one of the crops and provides insurance against the crop failure due to abnormal weather conditions. The crops that are grown together should have a different maturation time and different water requirements.

**90. Answer: (b)**

Statement 1 is incorrect. Agriculture Census in India is

conducted every five years. In India, the Department of Agriculture and Farmers Welfare has been organizing Agricultural Census, since 1970-71 in collaboration with the States and Union Territories as part of programme of World Census of Agriculture. Through Agriculture Census, basic data on important aspects of agricultural economy of operational holdings in the country is collected. The basic unit of data collection in Agriculture Census is the operational holding.

**91. Answer: (b)**

Statement 3 is incorrect.

- Researchers introduced a ground-breaking study on "electronic soil" (eSoil) in hydroponics, offering the potential for sustainable urban agriculture and food security.
- eSoil is an electrically conductive growth substrate derived from cellulose and a conductive polymer (PEDOT).
- It stimulates plant roots and the growth environment with low power, providing a safer and environmentally friendly alternative to traditional methods.
- eSoil works by electrically stimulating plant roots.
- This promotes effective and sustainable development, expanding the range of crops that can be grown hydroponically—without soil, using only water, nutrients, and a substrate.
- The benefits of eSoil include low energy consumption, safety, and its compatibility with hydroponics, enabling urban agriculture to meet the challenges of a growing population and climate change.

**92. Solution: (b)**

Option 1 and 3 is correct.

**93. Answer: (c)**

A startling increase in the speed and intensity of global deforestation has derailed efforts to protect and restore forests by 2030, according to two new reports analyzing progress toward global forest conservation goals. WWF's Forest Pathways 2023 report and the Forest Declaration Assessment detail the immense scale of forest loss just two years after more than 130 countries representing 85% of the planet's forests pledged to halt and reverse deforestation by the end of the decade. The lack of progress on commitments leaves the world in clear danger of missing vital targets.

**94. Answer: (c)**

The World Bank released the International Debt Report (IDR). What are debts? Debt refers to an obligation or financial liability that one party owes to another. It is typically in the form of borrowed funds

that need to be repaid over time, often with interest. India's total debt is around 81%, but most of it is domestic debt. India's external debt is around 18.6% (around USD 624 billion at the end of March 2023), as per the RBI data.

**95. Solution: (c)**

The Bab-el-Mandeb is a strait between Yemen on the Arabian Peninsula and Djibouti and Eritrea in the Horn of Africa. It connects the Red Sea to the Gulf of Aden.

**96. Answer: (b)**

Statement 1 is incorrect. Ennore Creek in Chennai, situated along the Coromandel Coast, serves as a crucial buffer for the aquifers of the Araniyar-Kosasthalaiyar Basin, protecting them from the sea. Positioned in the floodplains of three rivers on a disaster-prone coastline, Chennai relies on wetlands like Ennore Creek as natural shock absorbers during calamities. The creek is part of the Pulicat water system, including the Pulicat lagoon and the Buckingham Canal.

**97. Solution: (d)**

Europe's most active volcano Mount Etna erupted on May 21, 2023. Mount Etna is in an almost constant state of activity and it's considered a United Nations Educational, Scientific and Cultural Organization World Heritage Site. The volcano's height increased by over 30 metres following a six-month period of activity. This sudden growth spurt is the result of about 50 eruptions at the southeastern crater since February 16, 2021. The height grew due to the amount of volcanic material it spewed.

**98. Answer: (a)**

Only Statement 3 is correct. Yemen is a country in West Asia located at the southern end of the Arabian Peninsula. It shares borders with Saudi Arabia and Oman and maritime borders with Eritrea, Djibouti, and Somalia. Yemen is a member of the Arab League, the United Nations, the Non-Aligned Movement, and the Organisation of Islamic Cooperation.

**99. Solution: (c)**

Indonesia's Mount Marapi erupted again recently. Marapi is known for sudden eruptions that are difficult to predict because they are not caused by a deep movement of magma, which sets off tremors that register on seismic monitors.

**100. Answer: (b)**

Statement 2 is incorrect. Bhutan is a landlocked country in the Eastern Himalayas, bordered by China and India. Known as "Druk Yul" or "Land of the Thunder Dragon," it has a constitutional monarchy with a king as the head of state and a prime minister as the head of government. Vajrayana Buddhism is the state religion, and Gangkhar Puensum is its highest peak, also the highest unclimbed mountain globally.