

ANSWERS KEYS

1	a	26	b	51	b	76	d
2	a	27	b	52	b	77	c
3	c	28	b	53	b	78	d
4	b	29	d	54	a	79	a
5	b	30	d	55	d	80	c
6	d	31	c	56	b	81	a
7	b	32	b	57	c	82	d
8	a	33	a	58	b	83	c
9	a	34	b	59	c	84	a
10	b	35	b	60	c	85	c
11	c	36	d	61	c	86	b
12	b	37	a	62	a	87	d
13	c	38	a	63	b	88	d
14	a	39	c	64	c	89	b
15	a	40	b	65	a	90	c
16	b	41	c	66	a	91	a
17	b	42	c	67	b	92	c
18	c	43	a	68	b	93	d
19	d	44	c	69	c	94	c
20	b	45	b	70	a	95	a
21	c	46	d	71	c	96	c
22	c	47	b	72	b	97	d
23	b	48	a	73	d	98	a
24	a	49	b	74	c	99	b
25	c	50	d	75	b	100	c

1.a

2.a

Statement 1 is correct. India is the fourth largest trading partner for Africa, with bilateral trade valued at approximately \$100 billion in 2023. Statement 2 is incorrect. Under the Indian Technical and Economic Cooperation (ITEC) Programme, professionals from Africa and other regions are being trained. The Indian Technical and Economic Cooperation (ITEC) Programme is a flagship initiative of the Ministry of External Affairs, Government of India, aimed at enhancing capacity building and fostering international cooperation. ITEC provides training to thousands of professionals from over 160 countries across Asia, Africa, Latin America, Central and Eastern Europe, and the Pacific and Caribbean nations

3.c

Statements 1 and 3 are correct. The Jal Jeevan Mission emphasizes a community-driven and demand-driven approach, involving extensive community participation in planning, implementation, management, operation, and maintenance of in-village water supply systems. Village Water and Sanitation Committees (VWSCs), also known as Pani Samitis, play a crucial role in the planning, implementation, management, operation, and maintenance of village water supply systems under the Jal Jeevan Mission. Statement 2 is incorrect. The target service level for piped water supply under the Jal Jeevan Mission is 55 litres per capita per day.

4. b

Statement 1 is incorrect. India does not currently have a comprehensive National Security Strategy. Efforts are underway to develop one, but it has not yet been finalized or implemented. Statement 2 is correct. One of the anticipated benefits of a National Security Strategy is that it would promote better coordination among the military branches and various national security agencies by providing a clear framework and common goals.

5.b

Statements 1 and 3 are correct. The Agnipath Scheme recruits personnel below the rank of commissioned officers into the Indian Army, Navy, and Air Force. The government has stated that the Agnipath scheme would bring down the average age of the armed forces from 32 to 26 years in line with the age profile of major armies worldwide. Statement 2 is incorrect. While Agniveers receive a lump sum amount and skill certificates, there is no specific provision for government-sponsored higher education upon completion of their service

6.d

7.b

Statement 1 is incorrect. U.S. dollar-denominated debt remained the largest component of India's external debt, with a share of 53.8% at end-March 2024, followed by debt denominated in the Indian rupee (31.5%), yen (5.8%), SDR (5.4%), and euro (2.8%). Statement 2 is correct. India's external debt-to-GDP ratio is around 18.6% to 18.7%, which is relatively low compared to many other developing countries.

8.a

Statements 1 and 2 are correct. The Hoolock Gibbon is the only ape species native to India. It is unique to India's northeast and is the only ape species found in the country. Hoolock Gibbons are known for their ability to swing through the rainforest canopy using a form of locomotion called brachiation. Statement 3 is incorrect. The western hoolock gibbon is categorized as Endangered while the eastern hoolock gibbon is categorized as Vulnerable.

9.a

Statement 1 is correct. Odisha is the largest producer of iron ore in India, accounting for over half of the country's production. Iron ore is extracted from rocks and minerals rich in iron oxides, primarily hematite and magnetite. Statement 2 is incorrect. Bauxite is used to extract aluminium, not limestone. Limestone is a sedimentary rock composed of calcium carbonate. Rajasthan is the largest producer of limestone in India.

10.b

Statements 1 and 3 are correct. The heat emitted by air conditioners and other machinery contributes to the Urban Heat Island (UHI) effect by increasing the ambient temperature in urban areas. In India, a heatwave in coastal areas is declared when the maximum temperature departure is 4.5°C or more

from normal, provided the actual maximum temperature is 37°C or more. Statement 2 is incorrect. The World Health Organization considers a wet-bulb temperature of around 38.5°C to be near the limits of human survivability.

11.c

Statements 1 and 2 are correct. India currently imports coking coal from Australia, the U.S., and Russia. Australia is the largest supplier of coking coal to India, accounting for 59% of overall shipments in FY24. Mongolia is home to the Oyu Tolgoi mine, which is one of the largest copper mines in the world. The mine is expected to produce significant amounts of copper, making it a major player in the global copper market.

12.b

The eMigrate project is an initiative by the Ministry of Overseas Indian Affairs (MOIA) with the primary objective of automating the emigration process and protecting Indian workers from exploitation. It aims to create a centralized and transparent system that links all stakeholders involved in the emigration lifecycle, including Indian missions, employers, recruiting agents, emigrants, and insurance agencies.

13.c

Statements 1 and 2 are incorrect. A trade deficit occurs when a country's imports exceed its exports, which does not necessarily indicate an improvement in manufacturing. In fact, it often suggests that the country is importing more goods than it is producing and exporting. A high level of domestic savings reduces the trade deficit because it means the country relies more on domestic capital rather than foreign capital. A trade deficit is more commonly associated with low domestic savings and high consumption of imported goods. Statement 3 is correct. A rising trade deficit can put downward pressure on a country's currency because it increases the demand for foreign currencies to pay for imports, leading to a depreciation of the local currency.

14.a

Statements 1 and 2 are correct. The PM-JANMAN scheme is specifically designed to uplift the socio-economic status of Particularly Vulnerable Tribal Groups (PVTGs) by providing essential amenities and improving their living conditions. Having a job card is mandatory for PM JANMAN Housing registration. Statement 3 is incorrect. While the scheme aims to improve education access, free laptops for all students is not a core feature. Focus is likely on broader infrastructure and access. The PM-JANMAN scheme encompasses a wide range of interventions across various sectors, including: Housing, Drinking water, Sanitation, Education, Health, Livelihood, Connectivity, Legal awareness.

15.a

Statement 1 is correct. The United Nations Military Gender Advocate of the Year Award was created in 2016 by the Office of Military Affairs within the Department for Peace Operations (DPO). It recognizes a military peacekeeper who has best integrated a gender perspective into peacekeeping activities. This aligns with the principles of UN Security Council Resolution 1325 on Women, Peace, and Security. Statement 2 is incorrect. Major Radhika Sen, the 2023 recipient of the award, is recognized for her advocacy for women and girls while serving as a peacekeeper with the United Nations Organisation Stabilisation Mission in the Democratic Republic of the Congo (MONUSCO). Her notable contributions include leading mixed-gender engagement patrols, creating Community Alert Networks, and fostering safe spaces for men and women to operate together. Sen is the second Indian peacekeeper to receive this honour, following Major Suman Gawani, who was awarded in 2019 for her service with the UN Mission in South Sudan.

16.b

Statements 1 and 2 are correct. The Agnibaan SOrTeD is India's first semi-cryogenic engine-powered rocket that was entirely designed and manufactured indigenously by Agnikul Cosmos. The Agnilet engine used in the Agnibaan SOrTeD is the world's first single-piece 3D-printed semi-cryogenic rocket engine. It was also launched from India's first privately developed launchpad called 'Dhanush' established by Agnikul at Sriharikota. Agnibaan is a two-stage rocket with a capacity to carry up to 300 kg to a height of 700 km. Statement 3 is incorrect. The Agnibaan SOrTeD is powered by a semi-cryogenic engine that uses liquid oxygen (LOX) and kerosene, not liquid hydrogen and liquid oxygen.

17.b

Statement 1 is incorrect. A Virtual Payment Address (VPA) is a unique identifier used in UPI transactions, not specifically for online shopping. It allows users to send and receive money without sharing sensitive bank details. Statement 2 is correct. The National Payments Corporation of India (NPCI) manages the Immediate Payment Service (IMPS) as well as the UPI.

18.c

19.d

20.b

Statement 1 is incorrect. The maximum investment allowed by overseas instruments in Indian securities is capped at 20% of their net assets. The Indian government often implements regulations to control foreign investment in the Indian stock market. One such regulation limits the maximum investment allowed by overseas instruments (foreign investors) in Indian securities to a certain percentage of their net assets. Statement 2 is correct. A feeder fund pools capital from investors and invests it in a master fund. This structure allows for the consolidation of investments and the achievement of economies of scale.

21.c

Statements 1 and 3 are correct. PraVaHa is designed to simulate both external flows around aerospace vehicles (like launch vehicles) and internal flows within engines. PraVaHa is operational to simulate airflow for both perfect gas and real gas conditions. This capability is crucial for accurate aerodynamic and aerothermal analysis of aerospace vehicles. Statement 2 is incorrect. PraVaHa is specifically designed to utilize both CPU and GPU architectures for parallel processing, making it more efficient for complex Computational Fluid Dynamics (CFD) simulations

22.c

Operation Sadbhavana (Goodwill) is an initiative by the Indian Army aimed at addressing the needs and aspirations of people affected by terrorism in Jammu and Kashmir and Ladakh. The operation focuses on various welfare activities to foster national integration, community development, and empowerment. However, providing direct financial aid to families is not a part of the operation.

23.b

24.a

25.c

Statements 1 and 3 are correct. World Environment Day, celebrated annually on June 5th, is a global event dedicated to raising awareness and promoting action for the protection of the environment. Established by the United Nations General Assembly in 1972 during the Stockholm Conference on the Human Environment, the first World Environment Day was observed in 1973 with the theme "Only One Earth". The United Nations Environment Programme (UNEP) leads the global celebrations of World Environment Day. Saudi Arabia is hosting the global celebrations for World Environment Day 2024. Statement 2 is incorrect. The theme for 2024 is "Land Restoration, Desertification, and Drought Resilience".

26.b

Statement 1 is incorrect. The primary objective of China's Chang'e-6 mission is to collect and return samples from the far side of the Moon, specifically from the South Pole-Aitken Basin. The mission involves collecting approximately 2 kg of lunar soil and rock samples and returning them to Earth for study. Statement 2 is correct. Chang'e-6 targeted the South Pole-Aitken Basin for its landing and sample collection. This basin is a significant and scientifically valuable region on the far side of the Moon, and the mission successfully landed there to collect samples.

27.b

Statements 1 and 2 are correct. The primary purpose of the advance estimates of agricultural crops is to estimate the production of various crops for planning and policy-making. This helps in making informed decisions regarding market regulation, public distribution, export and import policies, and other major policy decisions during the agricultural season. The Ministry of Agriculture and Farmers Welfare is responsible for releasing the advance estimates of major agricultural crops in India. Statement 3 is incorrect. Advanced estimates do not rely heavily on final harvest data from previous years. Instead, they are based on a combination of factors including area sown, yield rates from crop

cutting experiments, remote sensing data, and other inputs such as weather conditions and reports from state agricultural departments.

28.b

Statement 1 is incorrect. Pharmaceuticals are a significant export category for India, but they are not the largest. The largest export categories include refined petroleum, diamonds, and packaged medicaments, with refined petroleum being the top export. Statements 2 and 3 are correct. India's exports have shown an increase, with a rise of \$1.19 billion from January 2023 to January 2024. The Netherlands has emerged as India's third-largest export destination after the U.S. and UAE during 2023-24. India's trade surplus with the Netherlands rose to \$17.4 billion in FY24 from \$13 billion in FY23.

29.d

30.d

- **MISHTI Programme:** This program focuses on the conservation and restoration of mangrove habitats along the shorelines of India, providing financial and technical assistance to local communities for mangrove plantation activities.
- **Lifestyle for Environment (LiFE) initiative:** This initiative encourages a lifestyle that focuses on mindful and deliberate utilization of resources to mitigate the adverse effects of climate change.
- **Puneet Sagar Abhiyaan:** This campaign involves cleaning sea shores and other water bodies of plastic and other waste materials, raising awareness about the importance of cleanliness.
- **GRIHA III compliance:** GRIHA (Green Rating for Integrated Habitat Assessment) provides a rating system for the environmental performance of buildings, covering various aspects such as sustainable site planning, energy and water optimization, and waste management.

31. c

Statements 1, 2 and 3 are correct. The WHA is the governing body that sets policies and priorities for the WHO. The WHA approves the appointment of the WHO Director-General. The WHA is composed of delegations from all WHO member states. Statement 4 is incorrect. The WHA does not implement health programs in member states. The WHA focuses on setting global health goals, policies, and budget. Implementation is typically done by member states and WHO regional offices.

32.b

Statement 1 is incorrect. The PM Kisan Samman Nidhi Yojana provides financial support of Rs. 6,000 annually to eligible farmers, disbursed in three equal installments of Rs. 2,000 each.

Statements 2 and 3 are correct. The Ministry of Agriculture and Farmers Welfare is responsible for the implementation of the PM Kisan Samman Nidhi Yojana. Institutional landholders are excluded from receiving benefits under the PM Kisan Samman Nidhi Yojana. The scheme targets individual small and marginal farmers, not institutions holding land.

33.a

Statement 1 is correct. MRI scanners use strong magnetic fields and radio waves to produce detailed images of the inside of the body. **Statement 2** is incorrect. PET scans and MRI scans are different types of imaging techniques. PET scans use a radioactive tracer to show how tissues and organs are functioning, while MRI scans use magnetic fields and radio waves to create detailed images of the body's structures.

34.b

Statement 1 is incorrect. India has become a significant player in global shipping, with many Indian seafarers manning ocean-going ships. However, it does not dominate the world in shipbuilding and financing.

Statement 2 is correct. Indian seafarer remittances are typically equivalent to some 15% of all foreign direct investment that comes into the country every year.

35. B

2 and 3 are correctly matched.

- Visible Emission Line Coronagraph (VELC) – It is designed to image the solar corona and study its dynamics, including coronal mass ejections (CMEs) and magnetic field measurements.
- Plasma Analyser Package for Aditya (PAPA) – It is an energy and mass analyzer for in-situ measurements of solar wind electrons and ions, not for imaging the solar corona.

36. D

- Population size of the state: This is a significant factor in the devolution formula. The 15th Finance Commission, for instance, assigns a 15% weightage to the population based on the 2011 Census.
- Fiscal responsibility of the state government: This is indirectly considered through the "Tax Effort" criterion, which rewards states for higher tax collection efficiency. The 15th Finance Commission assigns a 2.5% weightage to tax and fiscal efforts.
- Level of economic development in the state: This is considered through the "Income Distance" criterion, which measures the distance of a state's income from the state with the highest per capita income. States with lower per capita income receive a higher share to maintain equity. The 15th Finance Commission assigns a 45% weightage to income distance.
- The cost of providing essential services in the state: This factor is indirectly considered through various grants and the overall assessment of state needs. The Finance Commission also considers the cost of providing essential services when recommending grants-in-aid to states facing revenue deficits.

37. A

Statements 1 and 2 are correct. Przewalski's horses are described as stockily built with shorter legs compared to domestic horses. They have a large head, thick neck, and an erect mane with no forelock. These horses are genetically distinct from domestic horses and have a unique evolutionary history. **Statement 3** is incorrect. They are currently listed as Endangered on the IUCN Red List

38. A

Statement 1 is correct. The ICET aims to enhance cooperation in critical and emerging technologies between India and the US, focusing on areas such as artificial intelligence, quantum computing, semiconductors, and wireless telecommunication. **Statement 2** is incorrect. The members of the Quad are the United States, Australia, India, and Japan

39. C

Statements 1, 2 and 3 are correct. Covering more than 70% of Earth's surface, our global ocean has a very high heat capacity. It has absorbed 90% of the warming that has occurred in recent decades due to increasing greenhouse gases, and the top few meters of the ocean store as much heat as Earth's entire atmosphere. The no-harm rule is a widely recognised principle of customary international law whereby a State is duty-bound to prevent, reduce and control the risk of environmental harm to other states. ITLOS rulings are legally binding only on the parties directly involved in the specific dispute brought before the tribunal.

40. B

Statements 1 and 2 are correct. The QCI is the apex organization responsible for setting up and overseeing India's third-party national accreditation system. This system ensures the credibility and competence of certification bodies that evaluate adherence to quality standards across various sectors. The Chairperson of QCI is appointed by the Prime Minister of India.

Statement 3 is incorrect. While QCI promotes quality standards, it doesn't directly conduct inspections. Its primary function is to accredit certification bodies that have the expertise to assess companies or organizations against specific quality standards. These accredited certification bodies then perform the inspections and issue relevant quality certifications

41. C

Statements 1 and 3 are correct. The BRICS members encompass approximately 29.3% of the world's land surface and 41% of the global population. The expanded BRICS group now collectively represents about 44% of global crude oil production.

Statement 2 is incorrect. Not all BRICS member states are members of the G20. For example, South Africa is the only African member of the G20, and some of the newly added BRICS members like Ethiopia and Iran are not part of the G20

42. C

Atomic clocks are used for high-speed data transfer and synchronization in telecommunications. Atomic clocks are used in various scientific research, including geophysics, metrology, and testing theories of

relativity. Atomic clocks are used for precise timekeeping in military applications. Atomic clocks are integral to the functioning of GPS and other global navigation satellite systems. However, wristwatches are not a common application area for atomic clocks, as they are typically too large and complex for consumer-grade wristwatches

43. A

- **Weather forecasting:** Weather forecasting involves simulating and analyzing vast amounts of data related to atmospheric conditions. Quantum computers can potentially handle these large datasets more efficiently and run more complex models than classical computers, leading to more accurate and timely weather predictions.
- **Breaking complex encryption codes:** One of the most well-known potential applications of quantum computers is their ability to break complex encryption codes.
- **Simulating the behaviour of large molecules for drug discovery:** Quantum computers are expected to revolutionize drug discovery by simulating the behaviour of large molecules at the quantum level.
- **Sending high-definition videos:** This is not a potential application of quantum computers. Sending high-definition videos is a data transmission task that does not necessarily require the unique capabilities of quantum computers.

44. C

Statements 1 and 2 are correct. Consent in medical treatment in India from the patient falls under Article 21 of the Indian Constitution, which guarantees the right to life and personal liberty. This includes the right to make informed decisions about one's own medical treatment. Under the doctrine of 'informed consent,' the doctor must provide patients with comprehensive information about a proposed medical treatment or procedure. This includes details about the nature of the treatment, its benefits, risks, alternatives, and the consequences of refusing treatment, enabling the patient to make an informed decision

45. B

Statement 1 is incorrect. Basel III mandates that banks must maintain a minimum total capital adequacy ratio of 8%. However, with the additional capital conservation buffer, the total requirement increases to 10.5%. Statement 2 is correct. Common Equity Tier 1 (CET1) capital refers to a bank's core capital, which is available to absorb losses and is considered the highest quality of regulatory capital. CET1 must be at least 4.5% of risk-weighted assets under Basel III

46. D

- Bolivia – There was an attempted military coup in Bolivia, which was thwarted by the government.
- Sudan – Sudan is experiencing a civil war, with significant conflict between the Sudanese Armed Forces (SAF) and the Rapid Support Forces (RSF).
- Myanmar – A senior Buddhist monk was killed by soldiers in Myanmar, which has caused significant outrage and tension

47. b

A global navigation satellite system (GNSS) is a network of satellites broadcasting timing and orbital information used for navigation and positioning measurements. GNSS find application in number of areas such as precision agriculture, weather forecasting, surveying and mapping, toll collection. However, GNSS is not typically used directly for designing urban areas.

48. A

- **Agriculture:** Geotextiles are used in various agricultural applications like Soil separation and filtration, Weed control, Reinforcement.
- **Preventing soil contamination:** Geotextiles act as effective barriers for containment and filtration purposes.
- **Power plant furnace:** Geotextiles are not typically used directly in power plant furnaces due to the extreme heat and harsh environment.

49. B

MQ-9B unmanned aerial vehicles and GE-414 jet engines are making progress along with defence industrial collaborations under the initiative on Critical and Emerging Technology (iCET) framework. However, Eurojet EJ200 does not fall under iCET.

50. D

Statements 1 and 2 are incorrect. The Indus Waters Treaty was brokered by the World Bank. The treaty does not establish an Indus Waters Tribunal but sets up a Permanent Indus Commission.

Statements 3 and 4 are correct. Under the treaty, India has rights to use the western rivers for non-consumptive uses like hydropower. The waters of Ravi, Beas, and Sutlej rivers are allocated for unrestricted use by India

51. B

Statement 1 is incorrect. The main objective of Bannerghatta Biological Park is ex-situ conservation. The main objective of the zoo is ex-situ conservation.

Statement 2 is correct. A large leopard safari has been recently inaugurated at Bannerghatta Biological Park. This is a first for South India and the largest leopard safari in the country.

52. B

The primary purpose of the Microwave Obscurant Chaff (MOC) technology developed by DRDO is to obscure radar signals and create a microwave shield around platforms and assets, thus reducing radar detection

53. B

Statements 1 and 4 are incorrect. India's nuclear doctrine is based on the principle of "No First Use" and "Massive Retaliation". The "credible minimum deterrent" refers to maintaining a nuclear arsenal sufficient to deter potential adversaries.

Statements 2 and 3 are correct. The Political Council of the Nuclear Command Authority, which is chaired by the Prime Minister, is the sole body authorized to order the use of nuclear weapons. India's nuclear doctrine states that in the event of a major attack against India or Indian forces anywhere by biological or chemical weapons, India retains the option of retaliating with nuclear weapons.

54. A

IndiGen project – IndiGen aims to create a reference genome grid for the Indian population, not a complete catalog of variations. This grid serves as a baseline for comparison, allowing researchers to identify specific variations in individuals.

Genome India project – Genome India likely focuses on whole genome sequencing of a large number of individuals to utilize this reference grid in public health applications.

55. D

Statements 1, 2 and 3 are correct. Geological conservation seeks to ensure the survival of the best representative examples of India's geological features and events. While GSI is involved in identifying and declaring geo-heritage sites, it currently lacks strong regulatory power to enforce preservation. India currently lacks a specific policy or legislation for geo-heritage conservation. The draft Geo-heritage Sites and Geo-relics Bill, 2022 is an attempt to address this gap, but it has not yet been enacted into law.

56. B

Statements 1, 2 and 3 are correct. The scheme provides subsidies for installing rooftop solar panels for residential houses and using solar energy for electricity. Any Indian citizen with a valid electricity connection and a suitable rooftop is eligible to apply for the PM Surya Ghar Muft Bijli Yojana. The government subsidy will cover up to 40% of the cost of installation of the solar panels. The scheme aims to reduce carbon emission.

Statement 4 is incorrect. Subsidized housing loans is not a benefit of the PM Surya Ghar Muft Bijli Yojana. India's installed rooftop solar (RTS) capacity increased by 2.99 GW in 2023-2024. Gujarat, Maharashtra, and Rajasthan are leading states in rooftop solar installation in India

57. C

Statements 1, 3 and 4 are correct. The Expanded Programme on Immunization (EPI) was launched by the World Health Organization (WHO) in 1974 to increase global vaccination coverage against six major preventable diseases (Diphtheria, Pertussis, Tetanus, Polio, Measles, Tuberculosis (TB)). However, now it has been expanded over 13 diseases. India launched its own indigenous immunization program, the Universal Immunization Programme (UIP), in 1985, drawing inspiration from the EPI.

The UIP aims to protect children and mothers against various preventable diseases by providing free vaccines. Herd immunity, achieved when a significant proportion of a population is vaccinated, plays a crucial role in the success of EPI programs.

Statement 2 is incorrect. While EPI has been successful in increasing immunization coverage and significantly reducing the incidence of measles, the disease has not been eradicated globally. The only human infectious disease that has been successfully eradicated globally is smallpox.

58. B

59. C

Statements 1 and 3 are correct. The Open Market Sale Scheme (OMSS) aims to sell surplus stocks of food grains, primarily wheat and rice, from the central pool in the open market at predetermined prices. This is done to control prices in the market and ensure food security. The OMSS sales are conducted through e-auctions on a designated platform, such as the National Commodity and Derivatives Exchange Limited (NCDEX). This ensures transparency and efficiency in the auction process.

Statement 2 is incorrect. The Food Corporation of India (FCI), under the Ministry of Consumer Affairs, Food & Public Distribution, is responsible for conducting the OMSS.

60. C

Statements 1 and 2 are correct. India's Defence Research and Development Organisation (DRDO) has indeed designed a two-tier Ballistic Missile Defence (BMD) system. This system is intended to track and destroy nuclear and other ballistic missiles both inside and outside the Earth's atmosphere. The two-tier system consists of the Prithvi Air Defence (PAD) missile for high-altitude interception and the Advanced Air Defence (AAD) missile for low-altitude interception. India is also developing its own long-range surface-to-air missile (LRSAM) system under Project Kushi. The LRSAM, also known as the Barak 8 missile system, is a joint project between India and Israel, with the involvement of DRDO and Israel Aerospace Industries (IAI). The LRSAM is designed to defend against airborne threats like aircraft, drones, and missiles.

61. C

- **Production of Rocket Fuel:** Water ice can be split into hydrogen and oxygen through a process called electrolysis. These components are key ingredients in rocket fuel, making the production of rocket fuel a viable use of lunar water ice.
- **Cooling Equipment:** Water has excellent thermal properties and can be used in systems designed to cool equipment, especially in harsh lunar conditions where temperature regulation is crucial for the survival of instruments and habitats.
- **Construction of Buildings:** Water ice can be used as a binder in the construction of buildings on the Moon. By mixing lunar regolith (moon dust) with water, it's possible to create a concrete-like material for building structures, providing shelter and protection against the lunar environment.

Note: A recent study indicates that the northern polar region of the moon harbors twice the amount of water ice compared to the southern polar region. The study supports the hypothesis that the primary source of sub-surface water ice at the lunar poles is out-gassing associated with volcanic activity during the Imbrian period

62. A

Statements 1 and 2 are incorrect. The SLU is used to upload both the names and symbols of candidates contesting a particular seat onto the Voter Verified Paper Audit Trail (VVPAT). The Optical Scanner is not a component of the EVM system where SLUs are used. The EVM system primarily consists of the Ballot Unit, Control Unit, and VVPAT.

Statement 3 is correct. According to recent directives from the Supreme Court, after the completion of the symbol loading process, SLUs must be sealed and stored in a container and kept in a strongroom along with EVMs for at least 45 days following the declaration of election results. This measure is intended to ensure the integrity and security of the election process

63. B

Statement 1 is incorrect. In 2023, India's share in global goods exports was 1.8%, and in global services exports, India's share rose to 4.6% from 2% in 2005, indicating a more significant increase in the share of global services exports than in goods exports.

Statement 2 is correct. The growth in services exports in India has acted as a buffer against external shocks such as high oil prices. A strong services sector, particularly in IT-enabled services, has helped generate foreign exchange earnings, create jobs, and contribute to economic growth. This resilience in the services sector has provided some cushion against external factors like high oil prices, which can negatively impact the economy by increasing the cost of imports and widening the trade deficit.

64. C

Statements 1, 3 and 4 are correct. PMJAY, also known as Ayushman Bharat Yojana, is designed to provide health insurance coverage of up to ₹5 lakh per family per year for secondary and tertiary care hospitalization to over 50 crore beneficiaries from economically weaker sections. One of the key features of PMJAY is that there are no restrictions on family size, age, or the number of members in a family. All pre-existing conditions are covered from day one, and the scheme aims to be inclusive by covering all members of eligible families. PMJAY aligns with the Sustainable Development Goals, particularly Goal 3, which aims to ensure healthy lives and promote well-being for all at all ages.

Statement 2 is incorrect. PMJAY primarily focuses on secondary and tertiary care hospitalization, covering a wide range of medical and surgical conditions. However, it does not cover preventive health checkups, vaccinations, or outpatient services. The scheme is designed to provide financial protection against catastrophic health expenditure due to hospitalization, rather than preventive care.

65. A

- Statement-I: India's steel exports to Europe hit a five-year high in FY24, reaching 3.3 million tonnes (mt), marking a significant increase of 65% year-on-year.
- Statement-II: Indian steel manufacturers have been able to increase their exports to the European Union due to their competitive pricing in the global market. The lower steel prices in India can be attributed to factors such as lower input costs, efficient production processes, and government support. Other factors that increased the steel exports are demand fluctuations, re-stocking trends in the EU, and a weak dollar that influenced the Euro to U.S. dollar exchange rate.
- Note: While there has been increase in the steel exports to the EU, steel exports to the UAE and Southeast Asia have faced challenges from competition from China.

66. A

Statement 1 is correct. India is the world's largest importer of vegetable oils. Compared to other vegetable oils like sunflower or soybean oil, palm oil is generally cheaper due to its high yield per hectare of land cultivated.

Statement 2 is incorrect. Indonesia is the largest exporter of palm oil to India, followed by Malaysia, Thailand, Singapore, and Papua New Guinea.

67. b

68. B

Statements 1 and 3 are correct. Reporters Without Borders (RSF) is the organization that publishes the World Press Freedom Index annually. Norway and Denmark topped the RSF index, while Eritrea ranked at the bottom, with Syria just above it.

Statement 2 is incorrect. India's rank improved slightly from 161 in 2023 to 159 in 2024. This was primarily due to other countries slipping in their rankings. However, India's score in the World Press Freedom Index fell from 36.62 to 31.28.

69. C

Statement I is correct. India's influence in South Asia has faced challenges in recent years due to various factors, such as increasing Chinese involvement in the region, internal political issues within India, and the growing assertion of smaller South Asian countries.

Statement II is incorrect. The majority of South Asian nations are not subject to more sanctions from the United States. As of now, only Iran and North Korea are under extensive sanctions from the US among the countries that can be considered part of the broader South Asia and neighboring regions.

70. A

Statement 1 is correct. The Sustainable Development Goals (SDGs) are a set of 17 interconnected global objectives established by the United Nations in 2015. These goals aim to address various global

challenges, including poverty, inequality, climate change, environmental degradation, and peace and justice.

Statements 2 and 3 are incorrect. The SDGs are not legally binding on countries. They are voluntary and aspirational. Countries are expected to take ownership and establish national frameworks for achieving these goals by 2030, but they are not mandatory. SDG-5 focuses on achieving gender equality and empowering all women and girls

71. C

Statements 1 and 3 are correct. The Spice Board of India is a regulatory and export promotion agency for Indian spices. It operates under the Ministry of Commerce and Industry and focuses on the development and worldwide promotion of Indian spices. Spice Train is an online campaign initiated by the Spice Board of India to educate Indians about the country's rich spice heritage and promote the use of spices in daily life. The campaign aims to create awareness and appreciation for the diverse range of spices that India has to offer.

Statement 2 is incorrect. The Spice Board of India does not set minimum retail prices for spices sold in India. Retail prices are typically determined by market forces such as demand and supply, as well as other factors like production costs, transportation, and government policies

72. B

Statement 1 is incorrect. The Jandhan, Aadhaar & Mobile (JAM) framework primarily aims to enhance financial inclusion by linking Jan Dhan accounts, Aadhaar numbers, and mobile numbers to streamline and secure the delivery of government subsidies and services directly to the beneficiaries, thereby reducing leakages and ensuring that benefits reach the intended recipients. It does not specifically aim to enhance national security and citizen identification.

Statement 2 is correct. The PM SVANidhi Yojana (Pradhan Mantri Street Vendor's AtmaNirbhar Nidhi) is a scheme launched by the Indian government to provide collateral-free working capital loans to street vendors affected by the COVID-19 pandemic. This scheme aims to support street vendors in resuming their businesses by offering financial assistance and promoting digital transactions

73.d

74. C

Statements 1 and 2 are correct. The online gaming industry in India has witnessed substantial growth in recent years, driven by factors such as increasing internet penetration, affordable data plans, and a growing interest in competitive gaming and esports. The IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, have been updated to include specific provisions for the online gaming industry. These amendments introduce regulations concerning the operation of online games, including the establishment of self-regulatory bodies, obligations for online gaming platforms to ensure user safety, and compliance requirements for online real money games.

75. B

Statement 1 is incorrect. According to the World Press Freedom Index 2024, Brazil and South Africa have higher press freedom rankings than China and Russia among the BRICS nations.

Statement 2 is correct. Among South Asian countries, India is ranked lower than all other countries except Bangladesh.

76. D

Market-based approaches to forest conservation involve utilizing economic incentives and market mechanisms to promote sustainable forest management and reduce deforestation. Some of the market-based approaches are as follows: Carbon offsets, Deforestation-free certification schemes, Payment for Ecosystem Services (PES), Reducing Emissions from Deforestation and Forest Degradation (REDD). However, Command-and-control regulations and community-based management are not market-based approaches since they do not primarily rely on financial incentives or trade mechanisms to achieve forest conservation goals.

77. C

Statements 1, 3 and 4 are correct. West Nile virus primarily infects birds, which are the main reservoirs for the virus. Mosquitoes become infected when they feed on infected birds and then transmit the virus to other animals, including humans. Approximately 80% of West Nile virus infections in humans are asymptomatic, meaning most people infected with the virus do not show symptoms. The West Nile

virus is primarily transmitted to humans through the bite of an infected mosquito. The virus cannot be spread through casual contact or through the airborne route. However, in a few cases, it can be transmitted through blood transfusions, organ transplants, or from mother to child during pregnancy or breastfeeding.

Statement 2 is incorrect. The primary vectors for the transmission of West Nile virus to humans are mosquitoes of the *Culex* genus

78. D

Statement-I is incorrect. While there have been efforts and initiatives like the National Program for Palliative Care (NPPC) to improve palliative care, India lacks a comprehensive, fully implemented national policy specifically dedicated to palliative care. India has a limited palliative care policy and palliative care is not systematically incorporated into the healthcare system.

Statement-II is correct. The National Health Mission, particularly through its components like the National Program for Palliative Care, aims to integrate palliative care into the broader health care framework. The NHM supports palliative care initiatives as part of its mission to provide comprehensive health services.

79. A

Statement 1 is correct. Countries with bilateral trade settlements in Indian rupees (INR) can invest in Indian government securities and treasury bills through their rupee accounts. The Reserve Bank of India (RBI) added this provision to the Foreign Exchange Management (Debt Instruments) Regulations in 2019. The funds used to purchase securities must come from the rupee account, and any sale or maturity proceeds are credited to the same account.

Statement 2 is incorrect. A Vostro account is a type of account held by a domestic bank (in India) on behalf of a foreign bank. It is not held by a government. A Vostro account enables the foreign bank to provide services to its clients in the domestic bank's country. For example, a Vostro account held by an Indian bank on behalf of a foreign bank allows the foreign bank's clients to conduct transactions in India.

80. C

Statements 1 and 3 are correct. Globally, renewable energy sources contributed to 30% of the electricity produced in 2023, with China leading the increase in solar and wind power generation. China is the leading producer of solar power globally, generating 584 BU of solar power in 2024, more than the four countries combined — the United States, Japan, Germany, and India. According to data from NITI Ayog, as of May 2024, solar power constitutes 18% of India's total installed electricity capacity of 442 GW but accounts for only 6.66% of the actual power produced.

Statement 2 is incorrect. In 2023, India surpassed Japan to become the world's third-highest producer of solar power. While India outpaced Japan in solar power production, it remains behind in terms of installed power capacity. India's total installed power capacity is 73 gigawatts (GW), placing it fifth globally, while Japan holds the third position with 83 GW.

81. a

Statement 1 is correct. The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations (UN). Its primary mission is to lead international efforts to defeat hunger, improve nutrition, and ensure food security worldwide.

Statement 2 is incorrect. The Human Development Report is published by the United Nations Development Programme (UNDP)

82. D

Statements 1, 2 and 3 are correct. India lags behind Sri Lanka in the Human Development Index (HDI). According to the Human Development Report, Sri Lanka has consistently ranked higher than India in HDI rankings over the years. India has a significant gender gap in labor force participation. As per various sources, the female labor force participation rate in India is significantly lower than that of men, and this gap has been a persistent issue. Household debt levels reached a record high of 40% of GDP by December 2023, with unsecured personal loans growing the fastest

83. C

Statements 1 and 2 are correct. The Indian government sets the Fair and Remunerative Price (FRP) for sugarcane each sugar season. The FRP is the minimum price that sugar mills are legally required to pay sugarcane farmers. The Commission for Agricultural Costs and Prices (CACP) recommends the

FRP, which is then approved by the Cabinet Committee on Economic Affairs. The FRP aims to ensure fair compensation for farmers while maintaining the financial viability of sugar mills. In addition to the Fair and Remunerative Price (FRP) set by the central government, some Indian states also set their own minimum prices for sugarcane, known as State-Advised Prices (SAPs). These SAPs are typically set to address regional differences in production costs and to provide additional support to sugarcane farmers in those states. In states where SAPs are applicable, sugar mills are required to pay the higher of the FRP or SAP to the farmers. The Reserve Bank of India (RBI) has a reference range for inflation, specifically targeting an inflation rate of 4% with a tolerance band of +/- 2%, effectively setting the range between 2% and 6%.

84. A

Statement 1 is correct. There has been a significant increase in phishing attacks due to the advances in artificial intelligence (AI). Reports highlight how AI, particularly generative AI, has been utilized to enhance the sophistication and effectiveness of phishing campaigns, leading to notable rises in such attacks.

Statement 2 is incorrect. The Bletchley Declaration aims to establish a global framework for the ethical use of artificial intelligence (AI), focusing on the safe, human-centric, trustworthy, and responsible development and deployment of AI systems. While AI has potential applications in various sectors, including defense and military, prioritizing its use specifically in these areas is not the main objective of the Bletchley Declaration

85. c

86. B

Statement 1 is incorrect. The biggest industrial contributors to global carbon emissions are typically the burning of fossil fuels for electricity, heat, and transportation. The steel industry is also a significant contributor, accounting for about 8% of global emissions. Titanium production does not rank as a major contributor in comparison.

Statements 2 and 3 are correct. Titanium is not found in its pure form in nature. It is typically found in minerals such as ilmenite (FeTiO_3) and rutile (TiO_2). These minerals must be processed to extract titanium metal. China is the largest producer of titanium, particularly in the form of titanium sponge, which is a primary form of titanium produced industrially. China leads in the production and supplies a significant portion of the global demand for titanium products.

87. d

88. d

89. b

90. c

91. a

92. c

93. d

94. c

95. a

96. c

97. d

98. a

99. b

100. c