1 C

Ex. Three important contributors to this problem include Covid-19 Lockdown, Demonetisation & stressed banking sector, GST Implementation and problems in Agriculture sector. The public goods are provided by government and the government needs tax revenues to supply them, and these depend upon national income. Then there is employment. A demand for labour exists only when there is a demand for goods. So growth is necessary if employment is to be assured.

2 A

Ex. Disguised Unemployment is the type of a phenomenon wherein more people are employed than actually needed. This is why the marginal productivity of the workers is zero here.

3 A

Ex. Currency inCirculation includes notes in circulation, rupee coins and small coins with public and with banks.

4 C

Ex. The scheme is meant to benefit workers in the unorganized sector and this includes street vendors, rickshaw pullers, agricultural workers, mid-day meal workers, construction workers, or workers in similar other occupations. There are an estimated 42 crore, such unorganized workers, in the country. Under this scheme, the beneficiary after attaining the age of 60 years would receive an assured monthly pension of Rs 3000/- per month and 50% of the pension shall be entitled to the spouse of the beneficiary as family pension after the death of the beneficiary.

5 A

Ex. GDP at factor cost = Net Value Addition + Depreciation is correct. GDP at at factor cost is the sum of net value addition by all producers within the country.

6 C

Ex. The weightage of food in CPI is as high as 50% and in WPI is 39.06%. WPI inflation does not capture price changes but CPI does.

7 C

Ex. CPI calculates the average price paid by the consumer to the shopkeepers. The CPI measures the expenses like education, communication, transportation, recreation, apparel, foods and beverages, housing and medical care.

8 C

Ex. Core inflation is less volatile as compared to Headline Inflation.
RBI tracks CPI headline for monetary policy.

9 D

Ex. Only NBFC-MFI give out microfinance loans in India. NBFC-MFI microfinance loans are not backed by collateral. NBFC-MFIs are free to charge the interest rate on the microfinance loans based on market principle.

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17 A

Ex. At present, a loan account turns into an NPA if it is not serviced for 90 days.The classification of Special Mention Accounts (SMA) was introduced by the RBI in 2014, to identify those accounts that has the potential to become an NPA/Stressed Asset. Logic of such a classification is because some accounts may turn NPA soon. Here, an early identification will help to tackle the problem better. There are four types of Special Mention Accounts.

18 C

Ex. * Korkai was a Pandyan port in Ancient India (now Tamil Nadu). It was also a great centre of pearl fishing in ancient India. Korkai is mentioned in ancient texts like the Greco-Roman text "Periplus of Erythrean Sea" and in Sangam Literature Classics like "Akananuru".
* Barygaza is modern day Bharuch. It was a commercial centre and had trade contacts with Egypt, Ceylon Java etc.
* Suppara or Sopara was a commercial centre and an important port on the coast of Maharashtra, India.
* Dasarna was a port in today's Odisha.

19 B

Ex. The 1896 Congress session was held at Calcutta under the presidency of Rahimtullah Sayani. In this session, Vande Mataram was sung for the first time by Rabindranath Tagore. The 1899 Congress session was held at Lucknow under the presidency of R.C Dutt. In this session noted critique of British economic policies, R.C Dutt urged the British government for permanent fixation of land revenue. The last session of Congress before independence was held in 1946 at Meerut. It was held under the presidency of J.B. Kripalani.

20 B

Ex.

21 B

Ex.

22 B

Ex. Besides nishka of the Rig Vedic period, gold and silver pieces like satamana and krishnala were used as media of exchange in the Later Vedic Period. They were not exactly currency as a currency system was yet to be established.

23 D

Ex. The Wardha Scheme of Education derives its name from the education conference of National Workers held at Wardha under the presidentship of Mahatma Gandhi organized by congress in 1937. * The scheme is also known as Nai Talim (Basic Education), Buniyadi Talim (Shiksha). * The scheme is based on a series of articles Gandhiji wrote in the Harijan newspaper. It was given a concrete shape by the Committee under the chairmanship of Dr. Zakir Hussain. * The basic features of the scheme are : 1. The main principle was learning through activities like handicrafts etc. 2. Free and compulsory education to be given for 8 years (from 6 to 14 years). 3. The medium of instructions is to be the mother tongue 4. Contact between and community and school through service. 5. Providing handicraft training to children. 6. Cleanliness and health are to be given sufficient importance. 7. It is aimed to provide education that can be self-supporting in later life.

24 B

Ex. The political work of INC was two-pronged. Firstly, to build up a strong public opinion in India to arouse the political consciousness and national spirit of the people and to educate and unite them on political questions. Secondly, to persuade the British Government to introduce reforms along directions laid down by the nationalists. In 1889, a British Committee of the Indian National Congress was founded to carry out active propaganda in Britain to educate British public opinion.

25 A

Ex. Press enabled nationalist workers living in different parts of the country to exchange views with one another. Some prominent nationalist newspapers of the period were the Hindu and Swadesamitran under the editorship of G. Subramaniya Iyer, Kesari and Mahratta under B.G. Tilak, Bengalee under Surendranath Banerjee, Amrita Bazar Patrika under Sisir Kumar Ghosh and Motilal Ghosh, Sudharak under G.K. Gokhale, Indian Mirror under N.N. Sen, Voice of India under Dadabhai Naoroji, Hindustani and Advocate under G.P. Varma and Tribune and Akhbar-i-Am in Punjab, Indu Prakash, Dyan Prakash, Kal and Gujarati in Bombay, and Som Prakash, Banganivasi and Sadharani in Bengal.

26 C

Ex. The main form of political work by the early Communists was to organize peasants' and workers' parties and work through them. The first such organization was the Labour-Swaraj Party of the Indian National Congress organized by Muzaffar Ahmed, Qazi Nazrul Islam, Hemanta Kumar Sarkar, and others in Bengal in November 1925.

27 A

Ex. In the 1930s, in the Malabar region of Kerala, a powerful peasant movement developed as the result of the efforts mainly of Congress Socialist Party activists. They toured villages and set up Karshak Sanghams (peasant associations).

28 A

Ex. There were multiple storm centres of 1857 revolt which were led by various leaders. At Delhi, the nominal and symbolic leadership belonged to the Mughal emperor, Bahadur Shah, but the real command lay with a court of soldiers headed by General Bakht Khan. At Kanpur, the natural choice was Nana Saheb, the adopted son of the last Peshwa, Baji Rao II. He was refused the family title and banished from Poona, and was living near Kanpur. Begum Hazrat Mahal took over the reins at Lucknow, where the rebellion broke out on June 4, 1857 and popular sympathy was overwhelmingly in favour of the deposed nawab. At Bareilly, Khan Bahadur, a descendant of the former ruler of Rohilkhand was placed in command. In Bihar, the revolt was led by Kunwar Singh, the zamindar of Jagdishpur. Maulvi Ahmadullah of Faizabad fought a stiff battle against the British troops.

29 B

Ex. In the nineteenth century, the western-educated intellectuals like Dadabhai Naoroji (Drain Theory), Mahadev Govind Ranade, R.C. Dutt (The Economic History of India), G.V. Joshi, G. Subramaniya Iyer, G.K Gokhale, etc. clearly understood the predatory economic policies of the British and became stern critics. During his career, Syed repeatedly called upon Muslims to loyally serve the British Raj and criticized the Indian National Congress.

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30 B

Ex. Lytton Followed forward policy towards Afghanistan. It is often called the policy of Proud Reserve. It aimed at having scientific frontiers and safeguarding spheres and influence. He proposed to effect "the gradual disintegration and weakening of the Afghan power." It led to the Second Afghan War (1878 - 1880) and the Treaty of Gandamak was signed.

31 C

Ex. The Amaravati Marbles, also known as Eliot Marbles, are a collection of 120 sculptures and inscriptions housed in the British Museum in London that were recovered from the Amaravati Mahachaitya in Guntur, Andhra Pradesh. In 1854, Walter Elliot, the commissioner of Guntur (Andhra Pradesh), visited Amaravati and collected several sculpture panels and took them away to Madras. (These came to be called the Elliot marbles after him.) He also discovered the remains of the western gateway and came to the conclusion that the structure at Amaravati was one of the largest and most magnificent Buddhist stupas ever built.

32 B

Ex. Sittanavasal Cave also known as Arivar Koil is a Jain complex of caves in the Sittanavasal village of Tamil Nadu.
These are examples of rock-cut architecture based on Jain thoughts and ideologies.
The name Sittanavasal has diverse cultural connotations.
Most paintings date to the Pandyan period i.e. 9th century AD.
The notable drawings include a pond with lotuses.

33 C

Ex. Free space optical communication (FSO) is an optical communication technology that uses light propagating in free space wirelessly transmit data for telecommunication or computer networking.
• In this technology data is transmitted through the air.
It is a line of sight technology that uses lasers to provide optical bandwidth connections. So both statements are correct.

34 B

Ex. The Indian hornbill is common hornbill found on the Indian subcontinent:
• It has grey feathers all over the body with a light grey or dull white belly.
• IUCN -LEAST CONCERN
• Hornbill has not been extinct in India .
So statement 1is not correct while statement 2and 3 are correct.

35 A

Ex. • Isotopes : atoms of the same element having some atomic number but different mass number are known as isotopes.
• Isobars : the atom of different elements which have he same number but different atomic number are called isobars.
• Isotones : some numbers of neutrons but different atomic numbers.

36 B

Ex. • Dugong reserve ; it would establish in the gulf of mannar palk bay between India and Sri lanka for the conservation o animals. Dugong also called sea cow is one of the four surviving species in the order sirenia and it is the only exiting species of herbivorous mammal.

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45 A

Ex. • Nekton : The group contains animals which are swimmers.
• The animals range in size from the swimming insets (about 2 mm long) to the largest animals. The blue whale sharks etc. so statements 1 or 3 are correct.
Blue jellyfish is a plankton species 2 is not correct.

46 A

Ex. Cell division- as part of a cell cycle. Is the process byy which a pent cell divide into two or more doughtier cells. So statements 1 is correct. Cell division is of two types;
Mitosis- it take place within somatic cells. (cells that make up the body)
• One single division of mother cell results into two daughter cells.
Meiosis- it take place within gamete cells(sex cells)
• Two division of the mother cell result into four meiotic products or haploid gametes
So statements 2 or 3 are not correct.

47 D

Ex. • Mitochondria - it is called power house of the cell. Found both in plant cell and animal cell. So statement 1 is correct
• Cell wall found in plant cell only do not in animal cell. So statement 2 is not correct.
Chloroplast- double membrane structure found in plant cell only. So statement 3 is correct.

48 A

Ex. UNDP has released the G20 People's Climate Vote 2021 report. The actions that G20 governments take to tackle the climate crisis will be critical to the future of the planet. In the run-up to the G20 Summit in Rome, and ahead of the UN Climate Change Conference (COP26) in Glasgow, the UN Development Programme and the University of Oxford are publishing the G20 Peoples' Climate Vote, a large G20 survey of public opinion on climate change.

49 A

Ex. INI is an international program, set up in 2003 under the sponsorship of the Scientific Committee on Problems of the Environment (SCOPE) and from the International Geosphere-Biosphere Program (IGBP).
The key aims of the INI are to : optimize nitrogen's beneficial role in sustainable food production, andminimize nitrogen's negative effects on human health and the environment resulting from food and energy production. International Nitrogen Initiative (INI) was hosted by the Germany's Federal Environment Agency (Umweltbundesamt-UBA).

50 D

Ex. Mastercard Inc. is an American multinational financial services corporation headquartered in the Mastercard International Global Headquarters in Purchase, New York. Mastercard is a leading global payments & technology company that connects consumers, businesses, merchants, issuers & governments around the world.
Mastercard is a leading global payments & technology company that connects consumers, businesses, merchants, issuers & governments around the world. Mir is a Russian payment system for electronic fund transfers established by the Central Bank of Russia under a law adopted on 1 May 2017.

51 D

Ex. Diaphragm-A diaphragm is a small, soft silicon dome. It forms a physical barrier between the man's sperm and the woman's egg, like a condom. Spermicide is a kind of birth control that has chemicals that stop sperm from reaching an egg. A spermicide is a substance that kills sperm. Spermicides are available as jelly, foam, cream, suppositories, and film. The active ingredient of most spermicides is a chemical called nonoxynol-9. Intrauterine Device (IUD). This small, T-shaped device is made from made of material containing progesterone hormone or plastic and copper and is fitted inside a woman's uterus by a trained healthcare provider. It's a long-acting and reversible method of contraception, which can stay in place for three to 10 years, depending on the type.

52 B

Ex. Recently, the Ministry of Electronics and Information Technology (MeitY) unveiled the National Strategy for Additive Manufacturing Policy. The policy aims to increase India's share in global additive manufacturing to 5% within the next three years and add USD 1 billion to the gross domestic product. Further, it aims to develop 50 India specific technologies for material, machine and software, 100 new startups for additive manufacturing, 500 new products and train at least 1 lakh new skilled workersThe Policy postulate the tenets of 'Make in India' and 'Atmanirbhar Bharat Abhiyan' that advocate self-reliance through the technological transformation of the production paradigm.

53 C

Ex. Tonga is a Polynesian kingdom of more than 170 South Pacific islands, many uninhabited, most lined in white beaches and coral reefs and covered with tropical rainforest. Recently, a volcanic eruption happened in Tonga, below the surface of the ocean and triggered tsunami waves around the Pacific. The US Geological Survey estimated the eruption caused the equivalent of a magnitude 5.8 earthquake.

54 C

Ex. Deinococcus radiodurans is an extremophilic bacterium and one of the most radiation-resistant organisms known. It can survive cold, dehydration, vacuum, and acid, and therefore is known as a polyextremophile. It has been listed as the world's toughest known bacterium in The Guinness Book Of World Records.
Gonorrhea is a sexually transmitted disease (STD) caused by infection with the Neisseria gonorrhoeae bacterium. N. gonorrhoeae infects the mucous membranes of the reproductive tract, including the cervix, uterus, and fallopian tubes in women, and the urethra in women and men.

55 B

Ex. Correctly using male (also called external) condoms and other barriers like female (also called internal) condoms and dental dams , every time, can reduce (though not eliminate) the risk of sexually transmitted diseases (STDs), including human immunodeficiency virus (HIV) and viral hepatitis. They can also provide protection against other diseases that may be transmitted through sex like Zika and Ebola. Using male (external) and female (internal) condoms correctly, every time can also help prevent pregnancy. Petroleum jelly is incompatible with latex products and it will weaken these types of condoms. The condom may break or tear during sex and can lead to unintended pregnancy or STIs.

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56 A

Ex. Global Economic Prospects is a World Bank Group flagship report that examines global economic developments and prospects, with a special focus on emerging market and developing economies. It is issued twice a year, in January and June.

57 A

Ex. Automatic train protection (ATP) is a type of train protection system which continually checks that the speed of a train is compatible with the permitted speed allowed by signalling, including automatic stop at certain signal aspects Kavach is the indigenously developed 'Automatic Train Protection System', which was recently tested on South Central Railway. As per the Union Budget, the system is scheduled for complete rollout on 2,000 km in 2022-23. It is India's own automatic protection system in development since 2012, under the name Train Collision Avoidance System (TCAS), which got renamed to Kavach.

58 D

Ex. The checkered keelback (Fowlea piscator), also known commonly as the Asiatic water snake, is a common species in the subfamily Natricinae of the family Colubridae. The species is endemic to Asia. It is non-venomous.

59 D

Ex. The Zaporizhzhia Nuclear Power Station in southeastern Ukraine is the largest nuclear power plant in Europe and among the 10 largest in the world

60 D

Ex.

61 A

Ex. A greenback is a slang term for U.S. paper dollars. The term originated during the mid-1860s, when these notes were printed in green ink. Congress had limited taxing authority, and used paper currency to help finance the civil war. The word "greenback" was a negative term because these notes did not have secure financial backing and banks were reluctant to give customers the full value of the dollar.

62 B

Ex. The Polavaram Project is an under construction multi-purpose irrigation project on the Godavari River in the West Godavari District and East Godavari District in Andhra Pradesh. The project has been accorded National project status by the Union Government of India.

63 C

Ex. The Montreal Protocol on Substances that Deplete the Ozone Layer was an international treaty which was organized in 1987. The UN General Assembly celebrate 16th September in memory of the date in 1987 when nations inked the Montreal Protocol.

64 B

Ex. China launched the ambitious 'One Belt and One Road' (OBOR) initiative in 2013, to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.

65 B

Ex. UN General Assembly adopted the resolution titled 'Aggression Against Ukraine', with support of 141 nations voting in favour and five against.

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66 B

Ex. Purchasing Managers' Index™ (PMI™) data are compiled by IHS Markit for more than 40 economies worldwide. The monthly data are derived from surveys of senior executives at private sector companies and are available only via subscription. The PMI dataset features a headline number, which indicates the overall health of an economy, and sub-indices, which provide insights into other key economic drivers such as GDP, inflation, exports, capacity utilization, employment and inventories. The PMI data are used by financial and corporate professionals to better understand where economies and markets are headed, and to uncover opportunities.

67 B

Ex. The Chief Minister is appointed by the Governor who also appoints other ministers on the advice of the Chief Minister. The Council of Ministers is collectively responsible to legislative assembly of the State.

68 B

Ex. The constitution does not provide for the mechanism of joint sitting of two houses of state legislature to resolve a deadlock between them over the passage of a bill. The Legislative Assembly has special privileges in legislative affairs.

69 D

Ex. Only 2 UTs (Delhi and Pondicherry) have representation in Rajya Sabha.
"Having special knowledge/practical experience in management" cannot be one of the basis of nomination.

70 A

Ex. A resolution was adopted by Parliament recommending that the provisions of Article 370 be made inoperative and that it be amended to state that all provisions of the Indian Constitution would apply to Jammu and Kashmir. On the basis of this resolution, the President issued a notification making Article 370 inoperative.

71 B

Ex. The Committee on Public Accounts is the oldest Parliamentary Committee and was first constituted in 1921. The Committee consists of 22 Members, 15 Members are elected by Lok Sabha and 7 Members of the Rajya Sabha are associated with it. The Speaker is empowered to appoint the Chairman of the Committee from amongst its members.

72 B

Ex. The order of precedence of the Republic of India is a list in which the functionaries, dignitaries and officials are listed for ceremonial purposes and has no legal standing and does not reflect the Indian presidential line of succession or the co-equal status of the separation of powers under The Constitution of India. The order is established by the President of India, through the President's Secretariat and is maintained by the Ministry of Home Affairs.

73 A

Ex. The 7th Constitutional Amendment Act of 1956 promoted the appointment of the same person as a Governor for two or more states. It is related to the reorganisation of states.

74 A

Ex. A member has to give a minimum of 15 clear days' notice of a question. Members can give notices of questions from the day following the day on which summons are issued. "However the Speaker can relax the required minimum notice period of 15 clear days to protect the interest of the Members".

75 C

Ex. Parliament generally meets in three sessions in a year. These are budget session, monsoon session & winter session. The Special session of Parliament may possible during National Emergency proclaimed under Article 352.

76 C

Ex. Under the Provision of Art. 77(3), Council of ministers are collectively responsible to the Lok Sabha. The Tenure of the Union Council of Ministers depends upon the confidence of the Council in the Lower House of Parliament.

77 D

Ex. The citizenship act, 1955 also lays down the three modes by which an Indian citizen, whether a citizen at the commencement of the constitution or subsequent to it, may lose his citizenship. These are renunciation, termination & deprivation.

78 C

Ex. B.R. Ambedkar regarded DPSP as the 'Novel Feature of the constitution'. They are an 'instrument of instructions' which are enumerated in the Government of India Act, 1935.They seek to establish economic and social democracy in the country. DPSPs are ideals which are not legally enforceable by the courts for their violation.

79 B

Ex. Fundamental rights are classified into groups according to their nature viz; Right to Equality (14-18), Right To Freedom (19-22), Right Against Exploitation (23-24), Right To Freedom Of Religion (25-28), Cultural & Educational Rights (29-31), Right To Constitutional Remedies (32).

80 A

Ex. Only once in the history of India, Chief Justice of India, Justice M Hidayatullah, discharged the duties of the president in the year 1969.

81 A

Ex. 73rd Constitutional Amendment Act (1992) has both voluntary and compulsory provisions. Giving representation to members of the MPs and MLAs in the panchayats at different levels falling within their constituencies is voluntary provision.

82 B

Ex. In case the election of President is declared void by the Supreme Court, the acts performed by President before the date of such decision of the court do not gets invalidated. It is the Constitutional provision under Article 71 of the Constitution.

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83 A

Ex. Indian system is based on Parliamentary Democracy, not based upon the doctrine of Separation of Powers. In India, a separation of functions rather than of powers is followed. Unlike in the US, in India, the concept of separation of powers is not adhered to strictly. However, a system of checks and balances have been put in place in such a manner that the judiciary has the power to strike down any unconstitutional laws passed by the legislature.

84 D

Ex. • The Indian Tsunami Early Warning System (ITEWS) was established in 2007 and is based at & operated by INCOIS, Hyderabad. • It is an integrated effort of different organisation including the Department of Space (DOS), Department of Science and Technology (DST), the Council of Scientific and Industrial Research (CSIR), Survey of India (SOI) and National Institute of Ocean Technology (NIOT). • ITEWS comprises a real-time network of seismic stations, tide gauges and a 24X7 operational tsunami warning centre to detect tsunamigenic earthquakes, to monitor tsunamis and to provide timely advisories to vulnerable communities.

85 D

Ex. • Location of Uranium resource in India:
1. Tummalapalle (Kadapa District) - Andhra Pradesh 2. Nalgonda District - Telangana 3. East Singhbhum District - Jharkhand 4. West Khasi Hills District - Meghalaya 5. Udaipur District - Rajasthan 6. Yadgir District - Karnataka 7. Rajnandgaon (District) - Chhattisgarh 8. Sonbhadra district - Uttar Pradesh 9. Rudraprayag District - Uttarakhand 10. Una District - Himachal Pradesh 11. Gondia District - Maharashtra

86 D

Ex. • Gold Resources in terms of the metal ore (primary) are located in : • Bihar (45 percent) • Rajasthan (23 percent) • Karnataka (22 percent) • West Bengal (3 percent) • Andhra Pradesh and Madhya Pradesh (2 percent each)
• Gold Resources in terms of metal content are located in : • Karnataka, • Rajasthan, • Bihar, Andhra Pradesh, Jharkhand, etc. • Kolar Gold Field, Hutti Gold Field and Ramgiri Gold Field are the most important gold fields.

87 B

Ex. • The British type of climate has adequate rainfall throughout the year with a tendency towards a slight winter maximum (due to frontal cyclones). • Western margins have the heaviest rainfall due to westerlies. • In Europe the Climatic belt stretches far inland into the lowlands of North-West Europe (northern and western France, Belgium, the Netherlands, Denmark, western Norway and also north-western Iberia). • The climate is experienced in southern Chile, Southern Australia, Tasmania and most parts of New Zealand.

88 B

Ex. • A recent exploration by Geological Survey of India (GSI) has found reserves of Vanadium in Arunachal Pradesh. • Vanadium is used primarily as an alloying element in the Iron & Steel Industry and to some extent as a stabiliser in titanium and aluminium alloys used in the aerospace Industry. • Modern applications of vanadium include its use as vanadium secondary batteries for power plants and rechargeable Vanadium Redox Battery (VRB) for commercial applications. • Vanadium alloys are used in nuclear reactors because of vanadium's low neutron-absorbing properties. • The largest deposits of Vanadium are in China, followed by Russia and South Africa respectively.

89 B

Ex. • El Nino and La Nina are complex weather patterns resulting from variations in ocean temperatures in the Equatorial Pacific Region. They are opposite phases of what is known as the El Nino-Southern Oscillation (ENSO) cycle. • The ENSO cycle describes the fluctuations in temperature between the ocean and atmosphere in the east-central Equatorial Pacific. • El Nino and La Nina episodes typically last nine to 12 months, but some prolonged events may last for years. • El Nino is a climate pattern that describes the unusual warming of surface waters in the eastern tropical Pacific Ocean. • It is the "warm phase" of a larger phenomenon called the El Nino-Southern Oscillation (ENSO). • It occurs more frequently than La Nina. • El Nino was first recognized by Peruvian fishermen off the coast of Peru as the appearance of unusually warm water. • The Spanish immigrants called it El Nino, meaning "the little boy" in Spanish.

90 C

Ex. • Recently, a study on biogenic methane hydrate in the Krishna-Godavari (KG) Basin was conducted by the researchers at the Agharkar Research Institute (ARI), an autonomous institute of the Department of Science and Technology, Government of India. • Biogenic Methane: It is the methane produced from the metabolic activities of living organisms. The research team has identified the methanogens that produced the biogenic methane trapped as methane hydrate, which can be a significant source of energy. • Methanogens: These are microorganisms that produce methane as a metabolic by-product in hypoxic (low levels of oxygen) conditions. • The ARI team has documented a predominance of genus Methanosarcina in the KG basin, followed by a few other genera Methanoculleus, Methanobacterium. • Methane hydrate is formed when hydrogen-bonded water and methane gas come into contact at high pressures and low temperatures such as in oceans.

91 C

Ex. • Ocean currents are the continuous, predictable, directional movement of seawater. It is a massive movement of ocean water that is caused and influenced by various forces. They are like river flows in oceans. • Ocean water moves in two directions: horizontally and vertically. • Horizontal movements are referred to as currents, while vertical changes are called upwellings or downwellings. • Ocean currents impact humankind and the biosphere due to their influence on climate. • Coriolis force. The Coriolis force intervenes and causes the water to move to the right in the northern hemisphere and to the left in the southern hemisphere. • These large accumulations of water and the flow around them are called Gyres. • These produce large circular currents in all the ocean basins.

92 B

Ex. • Par Tapi Narmada Link proposes to transfer water from the water surplus regions of Western Ghats to the water deficit regions of Saurashtra and Kutch (Gujarat). • The link project includes seven reservoirs proposed in north Maharashtra and south Gujarat. • The Ken-Betwa is the first project under the government's National Perspective Plan for river interlinking. • The National River Linking Project (NRLP) formally known as the National Perspective Plan, envisages the transfer of water from water 'surplus' basins where there is flooding, to water 'deficit' basins where there is drought/scarcity, through inter-basin water transfer projects • Recently, some tribals have intensified their protest against the Par-Tapi-Narmada river linking project after it was mentioned in the budget speech (2022-23) of the finance minister.

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93 C

Ex.

94 D

Ex. • Floods have been a recurrent phenomenon in India and cause huge losses to lives, properties, livelihood systems infrastructure, and public utilities. • The major flood areas in India are in the Ganges - Brahmaputra - Meghna Basin which accounts for nearly 60% of the total river flow of the country. • The middle and lower courses of North Indian rivers such as Ganga, Brahmaputra, Kosi, Damodar, Mahanadi, etc. are prone to floods due to very low gradient. The flat plains do not have enough gradients for the outlet of drainage.

95 C

Ex. • Mariana Trench is located in the western Pacific east of the Philippines east of the Mariana Islands. • It is a crescent-shaped scar in the Earth's crust that measures more than 2,550 kilometres long and 69 kilometres wide on average. • The distance between the surface of the ocean and the trench's deepest point, the Challenger Deep, lies about 200 miles (322 kilometres). • The Mariana Trench is part of a global network of deep troughs that cut across the ocean floor. They form when two tectonic plates collide. At the collision point, one of the plates dives beneath the other into the Earth's mantle, creating an ocean trench.

96 D

Ex. • Social Forestry means making use of unused and fallow lands so that deeper forests are safeguarded from exploitation, by using fast-growing trees to meet the needs of fodder and fuelwood. • The National Commission on Forests used the term Social Forestry in 1976. • The main aim of the commission was to use land surrounding urban settlements, deforested due to human activities.

• The Objectives of Social Forestry are: • Improve the environment for protecting agriculture from adverse climatic factors. • Increase the supply of fuelwood for domestic use, small timber for rural housing, fodder for livestock, and minor forest produce for local industries. • Increase the natural beauty of the landscape; create recreational forests for the benefit of rural and urban populations. • Provide jobs for unskilled workers. • Effect land rehabilitation

• Raise the standard of living and quality of life of rural and urban people.

97 A

Ex. • The Zonal system of soil classification was proposed many years ago by Russian pedologists who recognized the strong relationship between climate, vegetation, and soil zones throughout the world. Three main classes of soil are recognized. • Zonal soils are those that are well developed and reflect the influence of climate as the major soil-forming factor. • Intrazonal types are well-developed soils formed where some local factor is dominant. • Azonal soils are those that are immature or poorly developed. • Alluvial soils are a type of Azonal soils as they are transported soils.

98 B

Ex. • The continents bordering the Atlantic Ocean, for example, are believed to be moving away from the Mid-Atlantic Ridge at a rate of 1-2 cm (0.4-0.8 inch) per year, thus increasing the breadth of the ocean basin by twice that amount. • Volcanic eruptions are common all along the mid-oceanic ridges and they bring huge amounts of lava to the surface in this area. • Mid-Atlantic Ridge - A divergent tectonic plate boundary that in the North Atlantic separates the Eurasian and North American plates, and in the South Atlantic separates the African and South American plates. • Kolbeinsey Ridge - A segment of the Mid-Atlantic Ridge north of Iceland in the Arctic Ocean.

99 A

Ex. • The systems developing in the mid and high latitude (35° latitude and 65° latitude in both hemispheres), beyond the tropics, are called the Temperate Cyclones or Extra Tropical Cyclones or Mid-Latitude Cyclones or Frontal Cyclones or Wave Cyclones.
• The Temperate cyclones are distributed in following regions: • USA and Canada - extend over Sierra Nevada, Colorado, Eastern Canadian Rockies and the Great Lakes region, • the belt extending from Iceland to Barents Sea and continuing over Russia and Siberia, • winter storms over Baltic Sea, • Mediterranean basin extending up to Russia and even up to India in winters (called western disturbances) and the Antarctic frontal zone.

100 B

Ex. • Chotanagpur plateau represents the north-eastern projection of the Indian Peninsula. • Mostly in Jharkhand, northern part of Chhattisgarh and Purulia district of West Bengal. • The Son river flows in the north-west of the plateau and joins the Ganga. • This plateau is composed mainly of Gondwana rocks. • The plateau is drained by numerous rivers and streams in different directions and presents a radial drainage pattern. • Rivers like the Damodar, the Subarnarekha, the North Koel, the South Koel and the Barkar have developed extensive drainage basins. • At places it is interrupted by monadnocks (an isolated hill or ridge of erosion-resistant rock rising above a peneplain. Ex: Ayers Rock in Australia) and conical hills.

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