

###ANSWERS###

1. Ans. B.

Rabies is transmitted through a bite from an infected animal. It can be spread through the dogs as well as bats. Bats are now the major source of human rabies deaths as dog mediated transmission has mostly been broken. Ebola virus is a zoonotic pathogen, with bats or nonhuman primates (chimpanzees, Apes, monkeys, etc) being the most likely source. The diversity of wild animals infected with hantaviruses. The known reservoirs are more than 80, belonging to 51 species of rodents. Birds are the reservoir host of the West Nile virus. The mosquito becomes infected when they feed on infected birds.

2. Ans. B.

Non- infectious diseases are those which are not contagious means they are not caused by pathogens.

These diseases are caused by lifestyle problems, environmental toxins, genetic mutations. Few more examples are diabetes, hypertension and few immune system diseases.

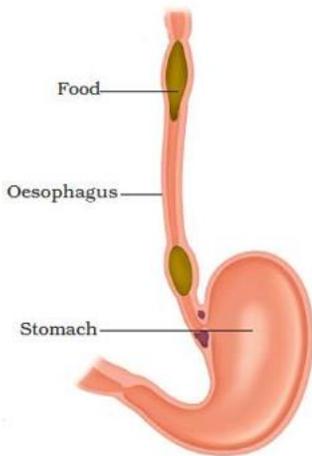
3. Ans. D.

It is more difficult to make antiviral medicines than antibacterial drugs as they use the host's cell to replicate. They usually have few biochemical mechanisms of their own. So, it is very difficult for viruses to aim for specific targets. Hence, they can sometimes damage their hosts.

4. Ans. D.

Esophagus is not part of the respiratory system. It is part of the digestive system. The nose, mouth, throat, voice box, wind pipe, airways, lungs make up the respiratory system.





5. Ans. A.

A flame cell is a specialized excretory cell which is found in the simplest freshwater invertebrates, including flatworms, rotifers, and nemerteans- these are the simplest animal to have dedicated excretory systems. Flame cells function like a kidney, removing waste material. Flatworms have an excretory system that consists of two tubules. The cells in the tubules are called flame cells.



mRNA stands for Messenger ribonucleic acid. It is single-stranded RNA molecules that are complementary to one of the DNA strands of a gene in the cell which carries codes from the DNA in the nucleus to the sites of protein synthesis in the cytoplasm.

6. Ans. B.

The sclerenchyma tissue has rectangular shaped cells, the cells are without nucleus and cytoplasm. They show deposition of lignin in the wall resulting in an even thickness. They are referred to as the dead cells.

A promotional banner for BYJU'S Exam Prep. On the left, there is an illustration of a person sitting and using a smartphone. In the center, the word 'लक्ष्य' (Laksya) is written in large, bold, purple Hindi characters. Below it, the text 'A Foundation Course for All Defence Exams' is written in a smaller, dark font. On the right side, there is a purple rectangular button with the text 'START FREE TRIAL' in white, uppercase letters.

7. Ans. B.

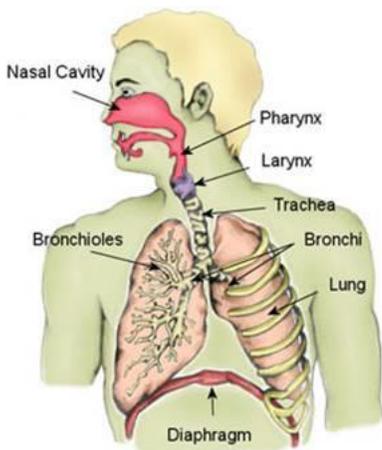
Pepsin is a stomach enzyme that helps to digest proteins found in ingested food. Pepsin is secreted by gastric chief cells, as an inactive zymogen that is called pepsinogen. A low pH activates the pepsin. Renin is also known as chymosin. It is a proteolytic enzyme which is related to pepsin that synthesizes by chief cells in the stomach. The role of renin indigestion is to curdle or coagulate milk in the stomach.

8. Ans. A.

Amylase is present in the human's saliva and some other mammals, the chemical process of digestion starts from here. Foods like rice and potatoes which contain a large amount of starch and little sugar acquires slightly sweet taste when they chewed because amylase degrades some of their starch into sugar.

9. Ans. D.

The respiratory system is a biological system consisting of Pharynx-Larynx-Trachea-Bronchi organs. The respiratory system is the networks of organs and tissues which helps in breathe. This system helps your body absorb oxygen from the air therefore organs can work. It also cleanses waste gases, such as carbon dioxide from your blood include allergies, infection, and disease.



10. Ans. A.



Gluteus maximus is the volumetric and largest muscle in the body. It is most superficial of all Gluteal muscles that are located at the posterior aspect of the hip joint this makes it the largest muscle at the hip representing 16% of the total cross-sectional area.



11. Ans. D.

When a liquid is dispersed in a solid phase it's called a gel. Cheese is an example of such a colloid.

There are eight colloids based on the dispersed phase and dispersion medium. They are aerosol (liquid in gas), solid aerosol (solid in gas), foam (gas in liquid), emulsion (liquid in liquid), sol (solid in liquid), solid foam (gas in solid), gel (liquid in solid), and solid sol (solid in solid).

A dispersed phase is a substance which is mixed in small quantity in a dispersion medium. The dispersion medium decides the final phase of the colloid.

12. Ans. A.

We know that the mass number of any element is the number of protons and neutrons present in an atom.

So, if Sodium has a mass number of 23 a.m.u., it means it has 11 protons which are equal to 11 electrons, then the number of neutrons must be $23 - 11 = 12$ neutrons.

Hence option A is correct.



13. Ans. A.

When 12 g of carbon combines with 32g of oxygen, then 44 g of CO₂ is formed.

It means, the total mass of the reactants = mass of the product

$$12+32 = 12+2\times 16(1\times C+2\times O)$$

$$12+32=12+32$$

$$44=44$$

Hence the law of conservation of mass is proved.

14. Ans. B.

In this structure, the parent chain is a butyl group numbering will start with a double bond. So, the substituted bromine group will be numbered 3 and substituted methyl will be numbered as 2.

And, substituent group will be named in alphabetical order.

15. Ans. C.

Elemental fluorine is known to be the strongest elemental oxidizing agent. The reason behind this is that fluorine is the most electronegative element in the modern periodic table, hence exerts the strongest attractive force on electrons amongst all the elements. Asbestos and quartz and water molecules burst into flames when exposed to F₂ due to its strong oxidizing power.

16. Ans. C.

The carbohydrates contain a chemically reactive group that is either an aldehyde group or a keto group; they are frequently called as aldopentoses or ketopentoses or aldohexoses or ketohexoses on the basis of the functional group (ketone, aldehyde) present in it.

17. Ans. D.



The bond which holds together the two amino acids is known as a peptide bond, also known as the covalent chemical bond between two compounds, in this case, two amino acids. Peptide bond forms when the carboxylic group of one molecule reacts with the amino group of the other molecule.

18. Ans. C.

The rate of reaction or reaction rate is the speed at which a chemical reaction takes place, defined as proportional to the increase in the concentration of a product per unit time and to the decrease in the concentration of a reactant per unit time.

Factors that influence the reaction rate are the nature of the reaction, concentration, pressure, reaction order, temperature, solvent, catalyst, isotopes, surface area etc.

A catalyst increases the rate of reaction and increasing temperature also increases the rate of reaction as it increases the number of collisions which increases the rate of the reaction.

19. Ans. C.

The oxide is calcium oxide (CaO). It is also known as quick lime. The reaction of quick lime with water forms calcium hydroxide, which is also known as slaked lime. It turns red litmus to blue as it is alkaline.



20. Ans. D.

Golgi bodies are involved in the packaging of the protein molecules generated in the endoplasmic reticulum. They transport protein and lipid molecules to different parts of the cell. These organelles help in the modification of cargo proteins. As the synthesis of proteins and lipids takes place in the Golgi apparatus, hence they act as the 'post office' of the cell. They also carry out the breakdown of proteins to smaller active fragments. Carbohydrates are synthesized in the Golgi body.

21. Ans. C.



$$I = neAv;$$

Since $n = \frac{N}{AL}$ N is the total number of electrons, A is the area of the cross-section of the cylinder, l is the length of the cylinder. Therefore, the formula is reduced to $I = N \times e \times l \times v$
Using given values from the question, I= 2amp.

22. Ans. B.

The speed of sound in any medium is given by

$$v = \sqrt{\frac{E}{\rho}}, v = \frac{E}{\rho}$$

where E=coefficient of elasticity of a medium,

ρ = density of the medium

As we know, solids are more elastic than gases.

$$E_s > E_l > E_g$$

Therefore, the speed of sound will be maximum in solids. On a rainy day, Presence of water droplets in a rainy day increases so, the sound travels faster through these rain drops than a normal dry day in which sound travels through air.

23. Ans. A.

The resistance of the fragment AB and BC are in series.

Therefore, effective resistance is

$$R_1 = 9 + 5 = 14 \Omega$$

Similarly, the resistance of the fragment AD and DC are in series. If R_2 is the effective resistance



$$R_2 = 3+6= 9\Omega$$

The resistance R_1 and R_2 are in parallel with 7Ω resistors.

Then equivalent resistor is,

$$\frac{1}{R_{eq}} = \frac{1}{9} + \frac{1}{14} + \frac{1}{7} = \frac{14+9+18}{126}$$

$$R_{eq} = \frac{126}{41} = 3.07$$

24. Ans. C.

Avalanche breakdown is originated by collision ionization of electron-hole pairs. A very minute current flows under reverse bias conditions and depletion region increases. The electric field in the depletion region of a diode can be much high. Electrons that enter the depletion region undergo a tremendous acceleration. These accelerated carriers collide with the atoms present there, they can knock electrons from their bonds, creating additional electron/hole pairs and thus additional current. These secondary carriers are glide into the depletion region, they also accelerated and the process repeats itself.

25. Ans. A.

When the angle of incidence exceeds θ_c , no reflected beam is observed, and the incident beam is completely reflected at the boundary. This phenomenon is known as total internal reflection. It only occurs when the light travels from a denser medium to a rare medium.

26. Ans. A.

The width of the fringe in the diffraction pattern is given as, $\frac{D\lambda}{d}$ Therefore, when the red light is replaced by blue light, the wavelength decreases which means that the fringe width decreases and pattern become narrower and crowded together.

27. Ans. D.

In planetary motion, the net external torque on the planet is zero. Therefore, angular momentum will remain constant.



28. Ans. A.

The short wave communication is radio transmission using the short-wave frequency. The radio waves in this band can be either reflected or refracted from the ionosphere layer in the atmosphere which consists of the electrically charged atoms. The short waves are used for very long-distance communication.

The received frequency of skywave for reflection from an ionospheric layer is $\nu_c = 9n^{1/2}$

Where n is the number density of electrons / m^3 .

Given, $n = 10^{11} / m^3$

$$\nu_c = 9 \times (10^{11})^{1/2}$$

$$= 2.8 \text{ MHz}$$

$$= 2 \text{ MHz}$$

29. Ans. A.

As the electron is at rest initially, only the electric field will exert force on it. There will be no magnetic force on the electron in the statement. Hence, the electron will start moving along the electric field.

30. Ans. A.

The correct order of frequency is given as Gamma-Rays > X-Rays > UV-Rays > Visible Rays

As

Gamma-Rays: $> 10^{19} \text{ Hz}$

X-Rays: $10^{16} - 10^{19} \text{ Hz}$

UV-Rays: $10^{14} - 10^{17} \text{ Hz}$

Visible Rays: $10^{14} - 10^{15} \text{ Hz}$



31. Ans. E.

नीचे भगत सिंह द्वारा लिखित कुछ पुस्तकें हैं:

- * मैं क्यों एक नास्तिक हूँ: एक आत्मकथात्मक प्रवचन
- * जेल नोटबुक और अन्य लेखन
- * भगत सिंह के चयनित कार्य
- * भगत सिंह: भाषण और लेखन का चयन करें
- * स्वतंत्रता की खुशबू; भगत सिंह का लेखन
- * स्वतंत्रता के शब्द: एक राष्ट्र के विचार: भगत सिंह
- * शाहिद आज़मा दी जेला दैरी: भागता सिंघा वालोमे जेला विक्का (1929-31) अधिन्या दे दुराणा ला गय न आवे तुकम
- * एक राष्ट्र के विचार: सिंह; भगत
- * वाइल्ड एनकाउंटर: एक आई-विटनेस अकाउंट
- * भगत सिंह और उनके साथियों के सम्पूर्ण उपलब्ध दस्तावेज
- * भगत सिंह और उनके साथियों के दस्तावेज
- * मैं नास्तिक क्यों हूँ
- * मराठी में शहीद भगत सिंह की जेल डायरी
- * जेल नोटबुक और अन्य लेखन
- * सिख मिसालों का इतिहास
- * जपजी

32. Ans. B.



A Congress convention initiated in Lahore in Dec. 1929. Pt. J.L. Nehru was the president of the convention. He declared that 'there is only one goal before us and that is of total independence.' In this convention, INC accepted the proposal of Total independence, on the mid night of 31st December, 1929, Congress President, in front of a big crowd, hoisted the flag of 'Total independence' on the bank of river Ravi. INC took the decision of observing 26th January, 1930 as the total independence day. Therefore, independence day was celebrated with zeal & enthusiasm, in all over the country.

33. Ans. D.

Result of Battle of Buxar:

- * Mir Qasim, Shuja-Ud-Daula & Shah Alam-II lost the battle on 22nd October 1764.
- * Major Hector Munro had won a decisive battle and Robert Clive had a major part in that.
- * The Britishers became a great power in northern India.
- * Mir Jafar (the Nawab of Bengal) handed over districts of Midnapore, Burdwan & Chittagong to the British for the maintenance of their army.
- * The English were even permitted duty-free trade in Bengal, except for a duty of 2% on salt.
- * After the death of Mir Jafar, his minor son, Najimud-Daula, was designated nawab, but the real power of administration set in the hands of the naib-subahdar, who could be appointed/dismissed by the English.
- * Clive made political settlements with Shuja-Ud-Daula of Awadh and Emperor Shah Alam II in the Treaty of Allahabad.

34. Ans. A.

M.G. Ranade was a renowned Indian scholar, moderate, social reformer and an author who utilized all his experts & knowledge in different spheres in contributing to Indian freedom struggle.

- * Political: Ranade was a founding member of INC which later provided as an umbrella organisation for fighting against the Britishers and led the freedom movement in India. He



has been portrayed as an early competitor of the politics of Bal Gangadhar Tilak and a mentor to Gopal Krishna Gokhale.

* Social: He fought against social evils, at that time, like child marriage, female education, widow remarriage etc., which was a hurdle to achieving national unity and India's freedom struggle.

* Economic: He helped developing a critique of colonial economy along with R.C. Dutt and Dadabhai Naoroji, which traced the path of colonialism of national economy and root cause of poverty. Ranade concluded that economic policies of British not developing India but hindering its economic development via trade, industries and foreign capital. He taught a complete generation in educating the values of industrialisation.

* Religious: He founded the Prarthana Samaj, a Hindu movement inspired by the Brahmo Samaj, embracing principles of enlightened theism based on the ancient Vedas with the goal of carrying out religious reforms in Maharashtra.

35. Ans. A.

Sir Auckland Colvin was a colonial administrator in India & Egypt, born into the Anglo-Indian Colvin family. Colvin was comptroller general in Egypt (1880 to 1882), and financial adviser to the Khedive (1883 to 87).

From 1883 to 92 he was back in India, firstly as financial member of council, and then as Lieutenant-governor of the North-West Provinces (i.e. as his father had been) and Oudh.

He officiated as secretary to the govt. of the North-West Provinces in April 1873, and from the succeeding June as commissioner of excise & stamps.

He established Colvin Taluqdars' College in Lucknow.

He officiated for a small period as commissioner of inland customs under the GoI, and he was afterwards collector of Bijnaur.

36. Ans. B.

* Edwin Montagu was designated the Secretary of State for India in the year 1917 and remained in that office till 1922. He was quite critical of the manner in which India was governed.



* On 20th August 1917, Montagu presented the historic *Montagu Declaration or August Declaration in the British Parliament*. This declaration proposed the raised participation of Indians in the administration & the development of self-governing institutions in India.

* In the year 1917, Montagu visited India and he held talks with the various representatives of Indian polity involving Mahatma Gandhi & Muhammad Ali Jinnah.

* He along with the Governor-General of India Lord Chelmsford, brought out a complete report titled *Constitutional Reforms in India*, even called the *Montagu-Chelmsford Report*. This report was published on 8th July 1918.

* This report became the baseline for the *Government of India Act 1919* (alternatively known as the *Montagu-Chelmsford Reforms/Montford Reforms*).

37. Ans. B.

The Unionist Party, a secular party, was established to represent the interests of Punjab's large feudal classes & gentry. Sir Fazli Husain, Sir Sikandar Hayat Khan, Sir Shahab-ud-Din, Muhammad Hussain Shah & Sir Chhotu Ram were the co-founders of the party. However, a majority of Unionists were Muslims, a huge number of Hindus and Sikhs also supported & participated in the Unionist Party.

In contrast with the INC and many other parties of the time, the Unionist Party didn't have a mass-based approach. Also, in contrast with the INC and the Muslim League, the Unionists supported the British rule, and contested elections for the PLC (Punjab Legislative Council) and the central Legislative Council at a period when the Congress and the Muslim League were boycotting them. As an outcome, the Unionist Party dominated the provincial legislature for a good number of years, allowing an elected provincial govt. to function when other provinces were governed by direct rule.

38. Ans. C.

B.P. Wadia (Bahman Pestonji Wadia/Bomanji Pestonji Wadia) was an Indian theosophist & labour activist. He was the first-ever member of TS Adyar, later of the United Lodge of Theosophists. On 13th April 1918, along with V. Kalyanasundaram Mudaliar, Wadia established the *Madras Labour Union*, one of India's first-ever organised labour unions.



In the year 1903 he joined the TS in Mumbai and moved to Adyar in the year 1908. Wadia worked for the journal The Theosophist. He also became president of the Madras Textile Workers' Union and engaged himself for the worker's rights.

In the year 1919 he visited the ULT in Los Angeles and was very impressed. When he returned to Adyar in the year 1919, he tried to work for a change of direction in the TS Adyar which was based on the ideals of the ULT, but did not succeed. He became disappointed and he left the TS Adyar to work for the ULT in Los Angeles.

39. Ans. B.

Annie Besant was the first-ever woman President of INC. She presided over the 1917 Calcutta session of the INC. She first came to India on 16th November 1893. When World War I broke out in the year 1914, she helped launch the HRL (Home Rule League) to campaign for democracy in India and dominion status within the Empire.

40. Ans. A.

Below are some moderate leaders of Indian freedom struggle:

- * Dadabhai Naoroji,
- * R.C.Dutt,
- * Gopal Krishna Gokhale,
- * S.N.Banerjee and
- * A.O.Hume.

Below are some radical leaders of Indian freedom struggle:

- * Lala Lajpat Rai,
- * Bipin Chandra Pal,
- * Bal Gangadhar Tilak,
- * Ashwini Kumar Dutt and



* Aurobindo Ghosh.

41. Ans. A.

Birendranath Sasmal was a political leader and lawyer. He was known as *Deshpran* due to his work for the country & for his efforts in the Swadeshi movement.

In Nagpur Congress in the year 1920, non-cooperation programme was passed. Das was the President of Bengal Congress & Birendranath was its Secretary.

Bengal Village Self Government Act was passed in the year 1919. As per the law, 227 Union Boards were established in the district. *Birendranath took up the cause of his people*, and plunged into the Boycott Movement. He declared that he would walk on bare feet till the Union Boards were not done away with.

Birendranath's was even involved in the Labon Satyagraha of 1930. His followers took active part in organizing people.

42. Ans. C.

* Chittaranjan Das is usually referred as Deshbandhu which means 'Friend of the nation'.

* He maintained close contact with Bipin Chandra Pal & Aurobindo Ghosh and helped them in publishing the *Bande Mataram* which was an English weekly for propagating the ideals of swaraj.

* He was politically most active between 1917 & 1925. In the year 1917, he presided over the Bengal Provincial Conference and put forward a plan for the village reconstruction through the establishment of local self-government, regeneration of cottage industry and cooperative credit societies,

* He denounced the Montagu-Chelmsford Reform, which formed a diarchy for India, and joined Gandhi's non-cooperation movement in the year 1920 and sacrificed all this luxury when he became linked to the Freedom Movement.

* He started a ban on British clothes in Bengal during the Non-Cooperation Movement of 1919 to 1922.



* He also brought out a newspaper called 'Forward' and then later changed its name to Liberty to fight the British rule. Netaji Subhas Chandra Bose was the editor of this newspaper. Subhas considered Das as his mentor.

43. Ans. A.

Al-Beruni was a Muslim astronomer, ethnographer, mathematician, anthropologist, historian, and geographer. He was born in Khwarazm, an area adjoining the Aral Sea now called as Karakalpakstan. He spent a major part of his life in Muhammad Ghazni in present-day Afghanistan, capital of the Ghaznavid dynasty. His book on the Indian culture is by far the most significant of his encyclopaedic works.

44. Ans. D.

Below are Famous Persian Historians of the Akbar's Period:

Book	Writer & Historian	Patron
Akbarnama & Ain-i-Akbari	Abu'l-Fazl	Akbar
Tarikh-i-Firishtah	Muhammad Qasim Hindu Shah	Akbar
Tabaqat-i-Akbari	Nizamuddin Ahmad	Akbar
Muntakhabut-Tawarikh	Abd al-Qadir Bada'uni	Akbar
Tarikh-i-Sher Shahi	Abbas Khan Sarwani	Akbar
Tazkirat-ul-Waqiat	Jauhar Aftabchi	Akbar
Tarikh-i-Sindh	Mir Muhammad Masoom Shah Bakhri	Akbar
Waqiat-i-Mushtaqi	Shiekh Rizq Ullah Mushtaqi	Akbar
Tarikh-i-Humayunshahi	Jauhar Aftabchi	Akbar
Tarikh-i-Akbari	Muhammad Arif Qandhari	Akbar

45. Ans. B.

The Mathura School of Art was completely influenced by Indianism. The stone utilized in the Mathura school of arts was red sandstone. The sculptures in the Mathura school of arts were less spiritual.

They majorly used the spotted red sandstone for making sculptures & statues. The starting images of the Buddha and the Bodhisattva are happy & fleshy figures with little spirituality



about them. This particular art prided themselves on creating images of Buddha and they also made statues of several gods and goddesses like Jain Tirthankaras.

46. Ans. C.

* Congress Working Committee first accepted the idea of the Quit India Movement at Wardha, not at Mysore. The Quit India Resolution was enacted by the Congress Working Committee on 8 Aug 1942 in Bombay. Gandhi was named the movement's leader.

* Lord Linlithgow was the Viceroy at the time of the Quit India Movement.

* Ram Mohan Roy was not associated with Quit India Movement. Participants associated with the movement were: M K Gandhi, Jayaprakash Narayan, Ram Manohar Lohia, Aruna Asaf Ali, Sucheta Kripalani, Chhotubhai Puranik, Biju Patnaik, R.P. Goenka, and Achyut Patwardhan.

* Achievements of Quit India Movement:

* In spite of heavy-handed suppression by the government, the people were undaunted and continued their struggle.

* Even though the government announced that independence could be granted only after the war completion, the movement drove home the point that India could not be governed without the support of the Indians.

* The movement put forward the demand for complete independence at its top agenda of the freedom movement.

* Anti-British sentiment and Public morale were enhanced.

47. Ans. C.

Benaras session (1905) was presided over by G.K. Gokhale. Extremists wanted to extend the Boycott and Swadeshi Movement to regions outside Bengal whereas the Moderates favored constitutional methods to protest against the partition of Bengal.

48. Ans. B.



Doctrine of Lapse was an annexation policy applied until 1858 in India. Under the policy, the British East India Company took over the princely states of Satara in 1848, Jaitpur and Sambalpur in 1849, Nagpur and Jhansi in 1854, Tore and Arcot in 1855.

49. Ans. A.

In Rajmahal hills, the Santhals under the leadership of Sido and Kahnu revolted against the oppressive revenue officials, moneylenders and landlords who all were considered outsiders by the Santhals. Ahom of Assam revolted against the Britishers who tried to incorporate the Ahoms territory in the Company's dominion. The revolt was led by Gomdhar Konwar.

Khasi Uprising was against the large no. of outsiders in Meghalaya hills which included people from plains. These outsiders were brought by East India company to Meghalaya for building roads. To throw away the outsiders, Khasis, Garos and Singphos under the leadership of Tirath Singh started the revolt.

50. Ans. D.

The Anti-Partition Movement was initiated on August 7, 1905, to protest against the partition of Bengal proposed by Lord Curzon. On the day a massive demonstration against the Partition was organised in the Town Hall in Kolkata. The protest was marked by boycott movement and Swadeshi Movement.

16th October 1905 was the official day of partition and this day was declared the day of national mourning throughout Bengal and on this day a general strike was organized and people fasted. Hindus and Muslims tied rakhi on each other's hand as a symbol of unity.

The British government resorted to all sort of tactics to suppress the anti-partition movement they failed to curb it and finally, in 1911, the British Government revoked the partition and reunited the east and west Bengal. However, Assam, Bihar and Orissa were separated to form a new province.

51. Ans. D.

Hindu philosophy mentions philosophers, world views and teachings that emerged in ancient India. These include six systems - Sankhya, Yoga, Nyaya, Vaisesika, Mimamsa and Vedanta. They are also called Astika philosophical traditions and are those that accept the Vedas as an authoritative, important source of knowledge.



Ancient India was also the period where certain philosophy sharing philosophical concepts, but rejected the Vedas, and these have been called Nasal or Nastika (heterodox or non-orthodox) Indian philosophies. Nastika Indian philosophy includes Buddhism, Jainism, Shrivak, Ajivika and others.

52. Ans. C.

Muhammad Bin Tughlaq was called 'Prince of moneyers' because he issued the maximum number of coins among the Delhi Sultans.

Muhammad Bin Tughlaq was the most learned Sultan of Delhi but he lacked practical judgment. He established the department of agriculture called Diwan-i-Kohi. He is also known for his experiments which failed miserably such as transfer of capital and introduction of token currency.

53. Ans. D.

किसी राज्य के राज्यपाल को यह निर्देश देने का अधिकार है कि संसद का एक अधिनियम राज्य में एक निर्धारित क्षेत्र पर लागू नहीं होता है या निर्दिष्ट संशोधनों और अपवादों के साथ लागू हो। अनुसूचित क्षेत्रों में लघु जल निकासों की योजना और प्रबंधन पंचायतों को उचित स्तर पर सौंपा गया है।

54. Ans. A.

संविधान के अनुच्छेद 371 के अनुसार, राष्ट्रपति यह प्रदान करने के लिए अधिकृत है कि महाराष्ट्र के राज्यपाल को _____ विशेष जिम्मेदारी होगी

- 1) विदर्भ , मराठवाड़ा और शेष महाराष्ट्र के लिए अलग-अलग विकास बोर्डों की स्थापना
- 2) यह प्रावधान करने कि इन बोर्डों के कार्य पर एक रिपोर्ट हर वर्ष में राज्य विधान सभा के समक्ष रखी जाएगी
- 3) उपर्युक्त क्षेत्रों में विकासात्मक व्यय के लिए धन का एक समान आवंटन
- 4) उपर्युक्त क्षेत्रों के संबंध में राज्य सेवाओं में पर्याप्त सुविधाएं प्रदान करने वाली एक न्यायसंगत व्यवस्था

55. Ans. A.

केंद्रीय प्रशासनिक न्यायाधिकरण की स्थापना 1985 में दिल्ली में प्रधान पीठ और विभिन्न राज्यों में अतिरिक्त पीठों के साथ की गई थी। यह एक बहु सदस्यी निकाय है जिसमें एक अध्यक्ष और सदस्य होते हैं।

56. Ans. D.



कोरम यानी प्रत्येक सदन में कुल सदस्यों की दसवीं संख्या, जिसमें पीठासीन अधिकारी भी शामिल हैं, किसी भी कार्य को करने से पहले सदन में उपस्थित होना आवश्यक है। संविधान ने संसद में कार्य के लिए अंग्रेजी और हिंदी के उपयोग को अधिकृत किया है।

57. Ans. A.

- पंचायती राज की स्थापना करने वाला पहला भारतीय राज्य राजस्थान था।
- प्रधानमंत्री ने 2 अक्टूबर, 1959 को नागौर जिले में योजना का उद्घाटन किया।
- आंध्र प्रदेश ने राजस्थान का अनुसरण किया और 1959 में इस प्रणाली को अपनाया।

58. Ans. A.

एक राज्यपाल को संसद के किसी भी सदन का सदस्य या राज्य विधान सभा का सदस्य नहीं होना चाहिए। एक गवर्नर पाँच वर्ष की अवधि के लिए पद धारण करता है। हालांकि, पांच साल का यह कार्यकाल राष्ट्रपति की इच्छा के अधीन है। राज्यपाल के पास कार्यकाल की कोई सुरक्षा नहीं है और न ही कोई निश्चित कार्यकाल है। उसे किसी भी समय राष्ट्रपति द्वारा हटाया जा सकता है।

59. Ans. C.

संविधान के 73rd संवैधानिक संशोधन अधिनियम (1992) या भाग IX में पंचायतों की वित्तीय स्थिति की समीक्षा करने के लिए हर पांच साल के बाद राज्य वित्त आयोग का गठन करने का अनिवार्य प्रावधान है।

60. Ans. B.

गोवा पुर्तगालियों के व्यापार के अधीन था, जो 1961 में भारतीय सेना के गोवा में प्रवेश करने के बाद समाप्त हो गया था। गोवा को आधिकारिक रूप से वर्ष 1987 में तत्कालीन प्रधानमंत्री राजीव गांधी द्वारा भारत का 25 वां राज्य घोषित किया गया था। बाद के वर्षों में, कोंकणी, गोवा की स्थानीय भाषा को भारत की 22 आधिकारिक क्षेत्रीय भाषाओं में से एक माना जाता था।

61. Ans. C.

चंद्र कुमार मामले (1997) में सुप्रीम कोर्ट ने फैसला सुनाया कि उच्च न्यायालय और उच्चतम न्यायालय दोनों रिट क्षेत्राधिकार संविधान के बुनियादी ढांचे का एक हिस्सा होता है। इसलिए, संविधान में संशोधन के माध्यम से इसे परिवर्तित या बहिष्कृत नहीं किया जा सकता है।

62. Ans. B.

सीवीसी एक बहु-सदस्यीय निकाय है जिसमें एक केंद्रीय सतर्कता आयुक्त होता है और जो दो सतर्कता आयुक्तों से अधिक नहीं होते हैं। केंद्रीय सतर्कता आयुक्त की सेवा के वेतन, भत्ते और अन्य शर्तें यूपीएससी के अध्यक्ष के समान हैं और सतर्कता आयुक्त यूपीएससी के सदस्य के समान हैं।

63. Ans. A.



भारत के संविधान की पांचवी अनुसूची प्रशासन के साथ अनुसूचित क्षेत्रों तथा साथ ही असम, मेघालय, त्रिपुरा और मिजोरम के अलावा अन्य राज्यों की अनुसूचित जनजातियों के प्रशासन की बात करता है।

64. Ans. D.

संवैधानिक निकाय	गैर संवैधानिक निकाय
1. चुनाव आयोग	1. योजना आयोग
2. संघ लोक सेवा आयोग	2. राष्ट्रीय विकास परिषद
3. एसपीएससी	3. राष्ट्रीय मानवाधिकार आयोग
4. वित्त आयोग	4. राज्य मानवाधिकार आयोग
5. राष्ट्रीय अनुसूचित जाति आयोग	5. केंद्रीय सूचना आयोग
6. राष्ट्रीय अनुसूचित जनजाति आयोग	6. राज्य सूचना आयोग
7. भाषाई अल्पसंख्यकों के लिए विशेष अधिकारी	7. केंद्रीय सतर्कता आयोग
8. भारत के नियंत्रक और महालेखा परीक्षक	8. केंद्रीय जांच ब्यूरो
9. भारत के अटॉर्नी जनरल के	9. लोकपाल और लोकायुक्त
10. राज्य के महाधिवक्ता	

65. Ans. D.

The Rajya Sabha enjoys some exclusive powers. Special Powers of Rajya Sabha are:

1. The power to declare a subject of the state List as a subject of the National Importance: The Rajya Sabha can pass a resolution by a two-thirds majority of its members for declaring a State List subject as a subject of national importance. Such a resolution gives power to the Union Parliament to legislate on such a state subject for a duration of one year. Such resolutions can be continuously passed by the Rajya Sabha.

2. Power in respect of Abolition or creation of an All India Service: The Rajya Sabha has the power to form one or more new All India Services. It can do it so by passing a resolution supported by the two-third majority on the plea of the National interest. In the same way, the Rajya Sabha can disband an existing All India Service.

3. The entire Rajya Sabha never gets dissolved, irrespective of what happens with the Lok Sabha.



4. The charges against the Vice-President can be levelled only in the Rajya Sabha.

The Rajya Sabha and Lok Sabha combinedly perform the following functions:

- Approval of the ordinances which is issued by the President.
- Ratification of an emergency proclamation.
- Making any small change in the jurisdiction of the Supreme Court and of the High Courts.
- Making any small change in the qualifications for the membership of the Lok Sabha and of the Rajya Sabha.

66. Ans. B.

Zonal councils have been formed by the Parliament to promote interstate cooperation and coordination. They are statutory bodies created under the States Reorganisation Act 1956 and not constitutional bodies. These councils are only deliberative and advisory bodies.

Composition of Zonal Council:

- * Chairman –The Chairman of each of these Zonal Councils is the Union Home Minister.
- * Vice-Chairman – The respected Chief Ministers of the States constitutes in each zone act as Vice-Chairman of the Zonal Council for that particular zone by rotation, each holding office for a period of 1 year at a time.
- * Members- The Chief Minister and the two other Ministers as nominated by the Governor from all the States and two members from the Union Territories included in the zone.
- * Advisers- One person who is nominated by the Planning Commission (which has been replaced by NITI Ayog at present) for each of the Zonal Councils, Chief Secretaries and another officer or Development Commissioner nominated by all the States included in the Zone.
- * Union Ministers are even invited to participate in the meetings of Zonal Councils depending upon necessity.



There are 5 Zonal Councils, namely:

- * The Northern Zonal Council, including the States of Haryana, Himachal Pradesh, Jammu & Kashmir, Rajasthan, Punjab, National Capital Territory of Delhi and the Union Territory of Chandigarh.
- * The Central Zonal Council, including the States of Chhattisgarh, Uttar Pradesh, Uttarakhand and Madhya Pradesh.
- * The Eastern Zonal Council, including the States of Bihar, Jharkhand, Orissa, and West Bengal.
- * The Western Zonal Council, including the States of Goa, Gujarat, Maharashtra and the Union Territories of Daman and Diu and Dadra and Nagar Haveli.
- * The Southern Zonal Council, including the States of Andhra Pradesh, Kerala, Karnataka, Tamil Nadu and the Union Territory of Puducherry.

The North Eastern States comprising, (i) Assam (ii) Arunachal Pradesh (iii) Tripura (iv) Manipur (v) Mizoram (vi) Meghalaya (vii) Sikkim and (viii) Nagaland are not included in the Zonal Councils, and their special problems are looked after by the North Eastern Council, set up under the North Eastern Council Act, 1972.

67. Ans. A.

Voting of credit is allowed to meet the unexpected demand on India's resources, which cannot be told with the details given in the budget, due to the magnitude or uncertain character of service. Therefore, it is like a blank check given to the executive by the Lok Sabha.

Excess Grant – it is excess amount, which given to ruling party, on the service which is already has been spent its all allowance given before. Excess must be approved by the Public Accounts Committee of Parliament.

68. Ans. C.

India was first introduced to the concept of Preamble through the Government of India Act 1919 (or the Mont-ford reforms). While the idea (Not ideals) for the Preamble to the Constitution of India was taken from the Constitution of the United States of America.



Jawaharlal Nehru on 13th December 1946 introduced the 'Objective Resolution' in the Constituent Assembly. The resolution expresses the aims of the Constituent Assembly and enlists the ideals and values of the Constitution. It set the path for the constitution maker to provide the citizen in a nation they promised during the freedom struggle. The Objectives Resolution enshrined the basic ideals of the Indian Constitution, i.e. equality, liberty, democracy and sovereignty and made moral obligation the members of the Constituent Assembly to fulfil it.

69. Ans. A.

Liberty represents thought, expression, belief, faith, and worship. It means there is no restriction on the activities of an individual. There are many opportunities available for the development of an individual personality. Liberty does not imply violating the Indian democratic system. It has to be enjoyed within the limitations mentioned in the Constitution.

Democracy means the people have the Supreme Power. The Indian Constitution gives representative parliamentary elections. It includes Universal adult franchise, regular elections, rule of law, and no discrimination.

Justice includes Social Justice, economic justice, and political justice through fundamental rights and Directive principles. It includes giving equal treatment to all the citizens without any distinction based on caste, gender, religion, and colour. It also includes the improvement of the backward classes and giving them equal opportunity.

Sovereign implies that India is an independent state. It is not a dependent nation or a dominion of any other nation. It is free to conduct its own internal or external affairs.

70. Ans. B.

After the Budget is presented in the Parliament and the discussions are completed, the members of the opposite party get a chance to bring their own cut motion to reduce the amount of the demand.

The Token Cut motion aims to reduce the amount of demand by a hundred rupees. It is confined to the particular grievance specified in the motion.

The Policy Cut aims to reduce the amount of demand to 1 rupee. It represents the complete disapproval of policy underlying the Demand.



The Economy Cut aims that the amount of demand is reduced to certain other amounts. It represents that the economy could be affected. The amount is either a lump sum reduction of demand or omission of the demand.

71. Ans. B.

The Strait of Gibraltar connects the Atlantic Ocean to the Mediterranean Sea.

- It is about 60 kilometers long and between 14 and 44 kilometers broad.
- It is one of the busiest waterways in the world.
- The name Gibraltar comes from the Rock of Gibraltar.

The famous *Strait of Magellan* is in South America Continent. It is a natural passage between Atlantic and Pacific Ocean. It is also a navigable sea route in southern Chile which separates mainland of South America towards north and Tierra del Fuego towards south.

This Strait is named after Ferdinand Magellan as he was the first European to navigate this strait in the year 1520.

72. Ans. C.

South Africa is the largest producer of Manganese in the world, accounting for 33.5% of global *production*. South African manganese mines are found in the manganese rich Kalahari Basin, in the country's Northern Cape, which is home to 80 per cent of the world's manganese ore reserves.

India is the *sixth largest producer* of Manganese. Odisha is the largest producer of manganese in India.

Manganese is required to manufacture steel. It is also used to manufacture bleaching powder, insecticides, and paints. It is used in the manufacturing of steel. It is used in the manufacturing of the Ferro-manganese alloy.

73. Ans. D.

Washington D.C. lies on the bank of Potomac river. The river forms part of the borders between Maryland and Washington, D.C.



The Potomac River is found within the mid - Atlantic region of the United States and flows from the Potomac Highlands into the *Chesapeake Bay*.

The river (main stem and Northern Branch) is approximately 652 km long, with a drainage area of about 14,700 square miles (38,000 km²). In terms of area, this makes the *Potomac River the fourth largest river along the Atlantic coast* of the United States and the *21st largest in the United States*.

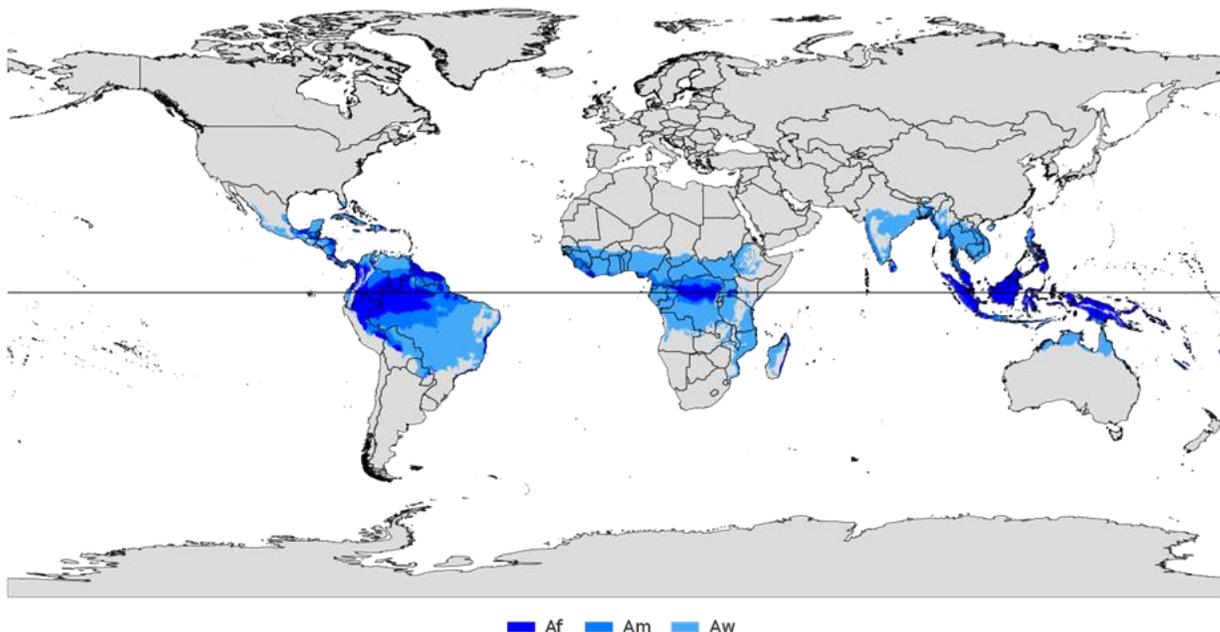
Over 5 million people live within the Potomac watershed.

74. Ans. B.

Argentina lies outside the tropical zone and has mostly subtropical plants. Most of the *Patagonia desert* area lies within the rain shadow of the Andes, so the flora, shrubby bushes and plants, is suited to dry conditions. Savannah-like areas exist in the drier regions nearer the Andes.

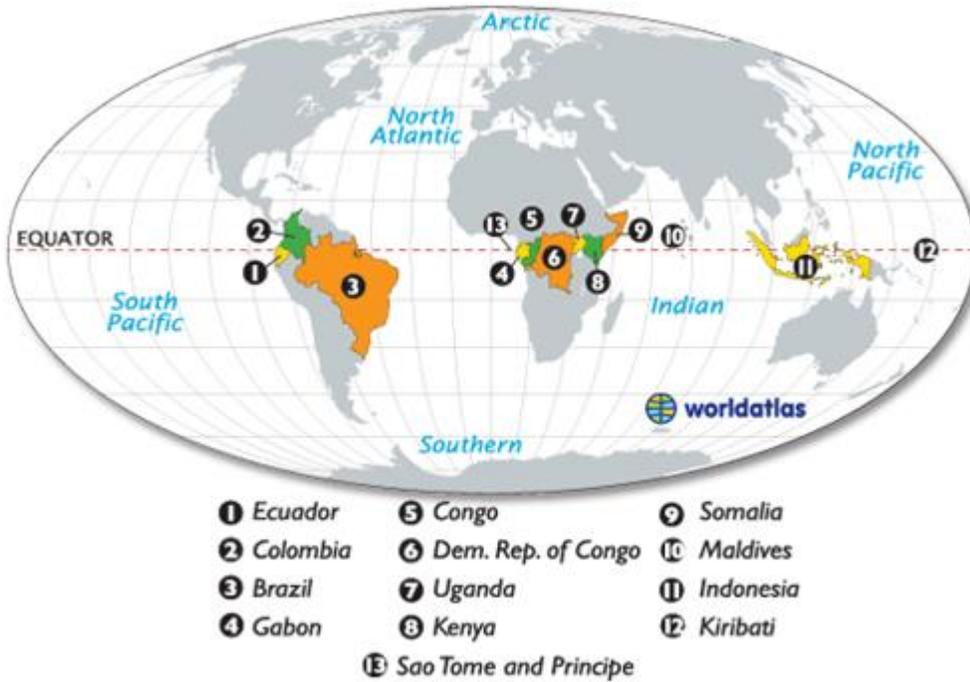
Aquatic plants thrive in the wetlands of Argentina. In *central Argentina*, the humid pampas are a true tallgrass prairie ecosystem.

Tropical (1980-2016)



75. Ans. D.

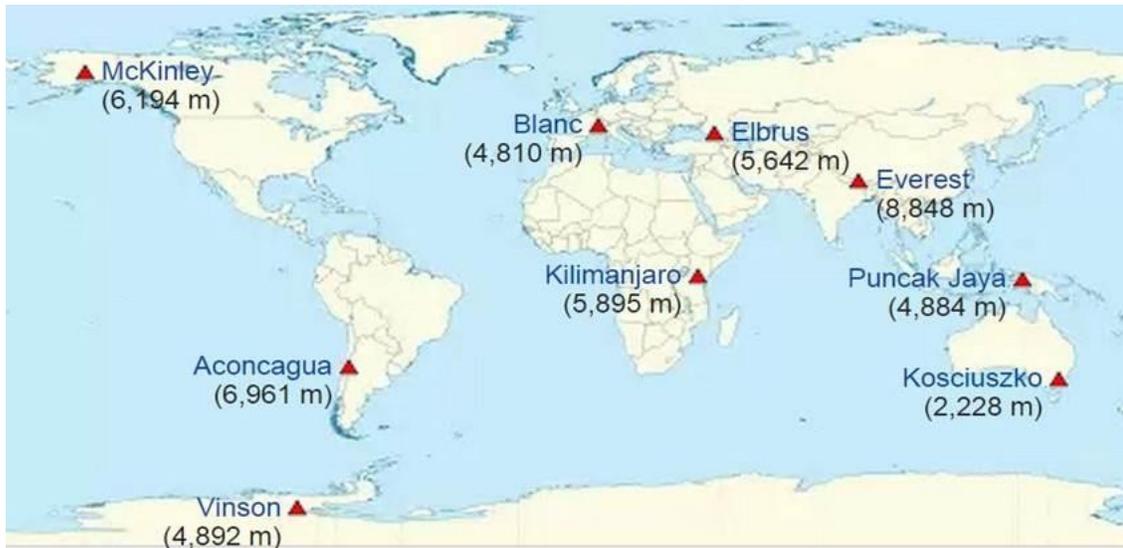
The Equator passes through all the given countries except Mexico.



76. Ans. D.

Highest points on various continents are given below:





77. Ans. B.

Thane district was the most populous district in India with a population of approx. 1.11 crore. Upper Dibang Valley, Arunachal Pradesh had the least population with approximately 8,004 residents as per 2011 census.

Top 5 Most populous districts in India are listed below:

Rank	District	State	Approximate Population	Density	
1	Thane	Maharashtra	(1.11 Crore)	11060148	1157
2	North Twenty Four Parganas	West Bengal	(1.00 Crore)	10009781	2445
3	Bangalore	Karnataka	(96.22 Lakh)	9621551	4381
4	Pune	Maharashtra	(94.29 Lakh)	9429408	603
5	Mumbai Suburban	Maharashtra	(93.57 Lakh)	9356962	20980

78. Ans. A.

Alpine vegetation grows in an alpine climate, which occurs at high elevation and above the tree line. There are many different plant species and taxon that grow as a plant

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community in the alpine tundra. These include perennial herbs, grasses, sedges, forbs, cushion plants, mosses, and lichens.

Alpine plants are adapted to the harsh conditions of the alpine environment, which include low temperatures, dryness, ultraviolet radiation, wind, drought, poor nutritional soil, and a short growing season.

Alpine plants occur in tundra: a type of natural region or biome that does not contain trees. Alpine tundra occurs in mountains worldwide. It transitions to subalpine forests below the tree line.

Alpine plants are not limited to higher elevations. However, high-elevation areas have different ecology than those located at higher latitudes. One of the biggest distinctions is that the lower bound of a tropical alpine area is difficult to define due to a mixture of human disturbances, dry climates, and a naturally lacking tree line.

79. Ans. A.

According to the Census 2011, the Indian population increased to 1.21 billion from 1.03 crore in 2001, with a decadal growth of 17.70%

India is the second most populated country in the world with nearly a fifth of the world's population. According to the 2019 revision of the World Population Prospects, the population stood at 1,352,642,280.

Between 1975 and 2010, the population doubled to 1.2 billion, reaching the billion mark in 1998. India is projected to surpass China to become the world's most populous country by 2024.

80. Ans. C.

The Northeast monsoon (i.e. winter monsoon) blows from the land to the sea, generally lasting from October to December.

During this phase, rainfall is experienced over the southern states, mainly in Tamil Nadu, Andhra Pradesh, Kerala along with some parts of the Telangana and Karnataka.



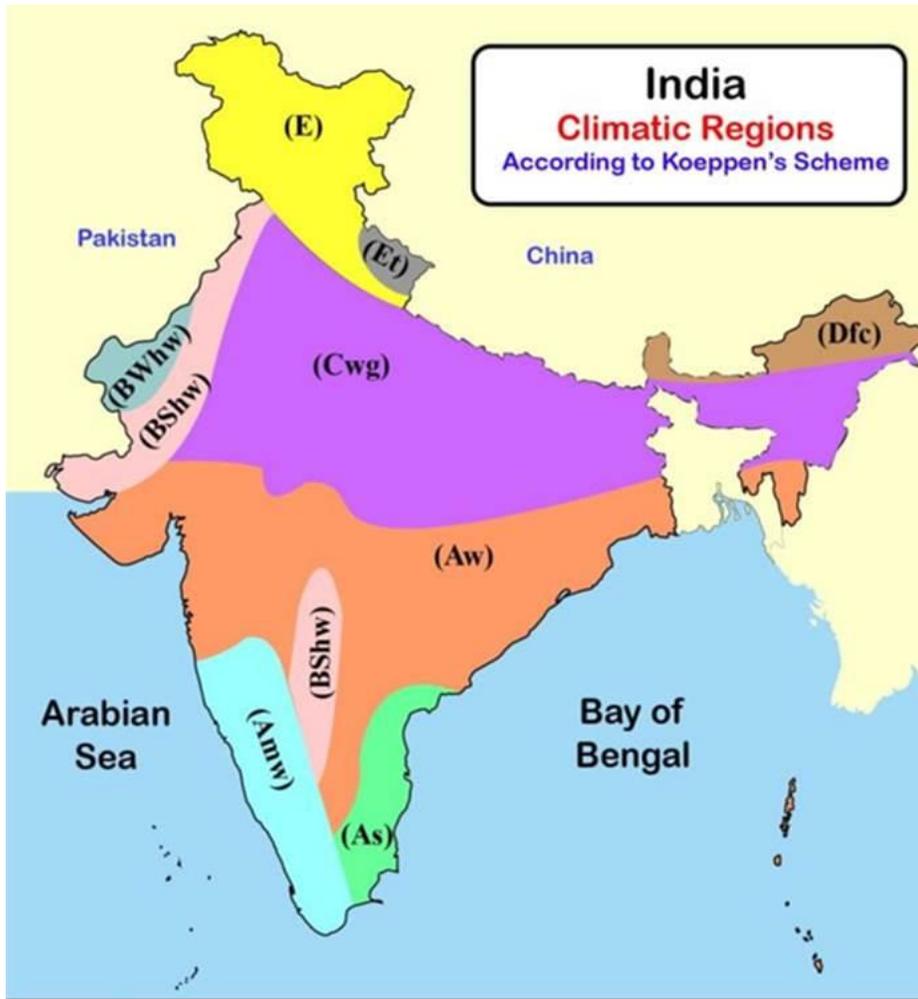
In regions around Jammu & Kashmir, Uttarakhand, and Himachal Pradesh and along the northeast, rainfall during this phase reported is either in the form of precipitation or snowfall.

It may be noted that several other parts of the country, such as the Gangetic plains and northern states, even receive rain in the November and December months.

Tamil Nadu is the only area which receives about half of its rainfall from north-east monsoon winds.

81. Ans. A.





(Cwg) Monsoon Type With Dry Winter	(As) Monsoon with Dry season in Summer	(BWhw) Hot Desert
(Aw) Tropical Savannah Type	(BShw) Steppe Climate	(E) Polar Type
(Amw) Monsoon Type with Short Dry Season	(Dfc) Cold Humid Winter with Short Summer	(Et) Tundra Type

82. Ans. C.

Inceptisols



* Inceptisols are a soil order in USDA soil taxonomy. They form quickly through alteration of parent material. They are more developed than Entisols. They have no accumulation of clays, iron oxide, aluminum oxide or organic matter.

* These are the most prevalent soil in India, accounting for 40 % of area, followed by Entisols at 28%.

Alfisols

* Alfisols are moderately leached soils that have relatively high native fertility. These soils have mainly formed under forest and have a subsurface horizon in which clays have accumulated. Alfisols are primarily found in temperate humid and sub-humid regions of the world.

* They have a clay-enriched subsoil and relatively high native fertility. "*Alf*" refers to aluminum (Al) and iron (Fe). Because of their productivity and abundance, the Alfisols represent one of the more important soil orders for food and fiber production.

83. Ans. D.

* Since the advent of the concept of sea floor spreading, the interest in the problem of distribution of oceans and continents was revived. It was in 1967, *McKenzie and Parker and also Morgan*, independently collected the available ideas and came out with another concept termed Plate Tectonics.

* The theory of plate tectonics proposes that the earth's lithosphere is divided into seven major and some minor plates.

* A tectonic plate (also called lithospheric plate) is a massive, irregularly - shaped slab of solid rock, generally composed of both continental and oceanic lithosphere. Plates move horizontally over the asthenosphere as rigid units. The lithosphere includes the crust and top mantle with its thickness range varying between 5-100 km in oceanic parts and about 200 km in the continental areas.

84. Ans. D.

Phases of rivers:

Youth stage:



Streams are few during this stage with poor integration and flow over original slopes showing *shallow V-shaped valleys* with no floodplains or with very narrow floodplains along trunk streams.

Mature stage:

During this stage streams are plenty with good integration. The valleys are still *V-shaped but deep*; trunk streams are broad enough to have wider floodplains within which streams may flow in meanders confined within the valley.

Old stage:

Smaller tributaries during old age are few with gentle gradients. Streams meander freely over vast floodplains showing natural levees, oxbow lakes, etc. Divides are broad and flat with lakes, swamps and marshes.

85. Ans. A.

In *Amensalism interaction*, one species is harmed and other is unaffected. Amensalism is any relationship between organisms of different species in which one organism is inhibited or destroyed while the other organism remains unaffected.

Assigning a '+' sign for beneficial interaction, '-' sign for detrimental and 0 for neutral interaction, all the possible outcomes of interspecies interactions are listed below:

Species A	Species B	Name of Interaction
+	+	Mutualism
-	-	Competition
+	-	Predation
+	-	Parasitism
+	0	Commensalism
-	0	Amensalism

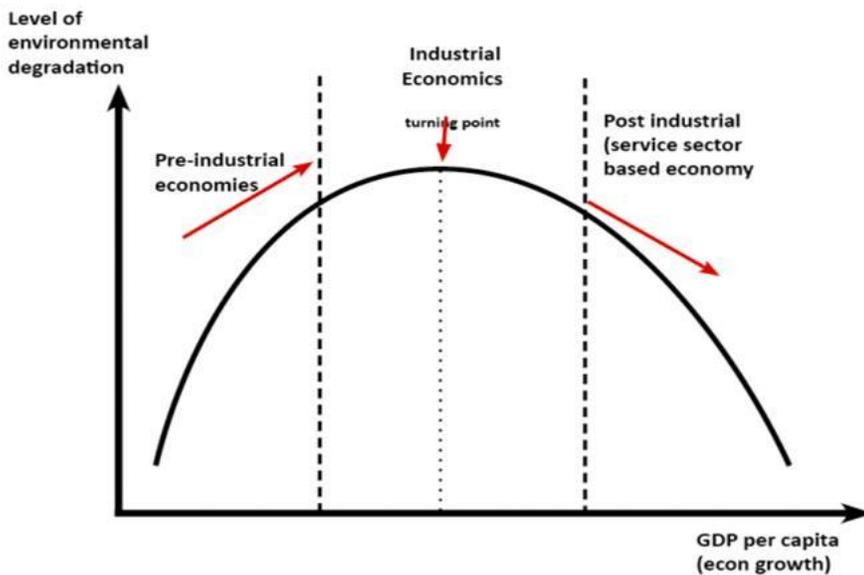
86. Ans. B.

The environmental Kuznets curve suggests that economic development initially leads to deterioration in the environment, but after a certain level of economic growth, a society



begins to improve its relationship with the environment and levels of environmental degradation reduces.

From a very simplistic viewpoint, it can suggest that economic growth is good for the environment. However, critics argue there is no guarantee that economic growth will lead to an improved environment – in fact, the opposite is often the case. At the least, it requires a much targeted policy and attitudes to make sure that economic growth is compatible with an improving environment.



87. Ans. D.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted in 1989 and entered into force on 5 May 1992. It was created to address increasing concerns over the management, disposal and transboundary movements of hazardous wastes.

Rotterdam Convention: The Rotterdam Convention (formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade) is a multilateral treaty to promote shared responsibilities in relation to importation of hazardous chemicals.

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora, also known as the Washington Convention) is a multilateral treaty to protect



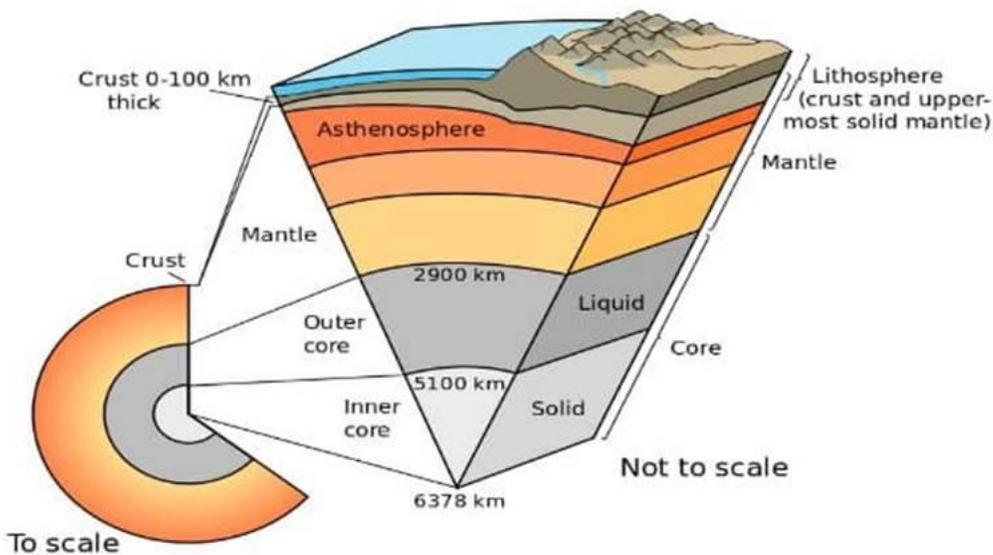
endangered plants and animals. It was drafted as a result of a resolution adopted in 1963 at a meeting of members of the International Union for Conservation of Nature (IUCN). The convention was opened for signature in 1973 and CITES entered into force on 1 July 1975.

88. Ans. B.

The innermost layer surrounding the earth's centre is called core, which is about 3500 km's in radius. Core is the densest layer of the earth with its density range from 9.5 to 14.5 and sometimes even higher. It is composed mainly of the Iron and Nickel thus commonly known as 'Nife'. (Nickel+Ferrum). Inner core is solid while outer core in fluid in nature.

* The layer surrounding the core is known as mantle, a rock shell about 2900 km's thick and is composed of basic silicates. Major constituent elements of Mantle are magnesium and silicon, hence, this layer is termed as 'Sima' (Silica + Magnesium). The density of this layer varies from 3.3 to 5.7.

* Crust is the outermost layer of the earth and is mainly composed of Silicon and Aluminum.



89. Ans. A.



Lake Victoria, also called Victoria Nyanza, is the largest lake in Africa and chief reservoir of the Nile, lying mainly in Tanzania and Uganda but a small part lies in Kenya as well.

Its area is 26,828 square miles (69,484 square km). Among the freshwater lakes of the world, it is exceeded in size only by Lake Superior in North America. It is an irregular quadrilateral in shape, and its shores, saves on the west, are deeply indented.

The lake's area is *divided among three countries*: Kenya occupies 6% (4,100 km² or 1,600 sq mi), Uganda 45% (31,000 km² or 12,000 sq mi), and Tanzania 49% (33,700 km² or 13,000 sq mi).

90. Ans. A.

La-Nina means *The Little girl* in Spanish language. They are sometimes called *El Viejo* or *anti- El-Nino*. La-Nina is the piling up of cold water near the West Coast of South America or shifting of warm currents towards the West Pacific or the Indonesian region, as a result, this aggravates the atmosphere of India and results in strong monsoon or even can bring in high rains and storms.

The conditions that cause La Niña recur every few years and can persist for as long as two years and are generally followed after El- Nina.

91. Ans. B.

GDP is the market value of all the final goods and services that are produced within the geographical boundaries of a country. It includes all the final goods and services that are produced within the geographical boundaries of a country. There are 3 methods for its calculation:

a) Income method - All the factors of production and the mixed-income of self-employed are added. It is the domestic income as it refers to the production within the domestic territory of the country.

$$\text{GDP} = \text{Rent} + \text{Wages} + \text{Interest} + \text{Capital} + \text{Mixed income of the self employed}$$

b) Production method –

It is calculated by adding the value added by all the firms.



Value-added = Value of Output – Value of (non-factor) inputs

This is the GDP at Market Price (MP) because it includes depreciation and taxes. To find National Income/, NNP at FC:-

1) Add Net Factor Income from Abroad: $GNP \text{ at MP} = GDP \text{ at MP} + NFIA$

2) Subtract Depreciation: $NNP \text{ at MP} = GNP \text{ at MP} - Dep$

3) Subtract Net Indirect Taxes: $NNP \text{ at FC} = NNP \text{ at MP} - NIT$

c) Expenditure method -

$$Y = C + I + G + (X - M)$$

where $Y = GDP \text{ at MP}$, $C = \text{Private Sector's Expenditure on final consumer goods}$, $G = \text{Govt's expenditure on final consumer goods}$, $I = \text{Investment or Capital Formation}$, $X = \text{Exports}$, $M = \text{Imports}$, $X - M = \text{Net Exports}$

92. Ans. D.

Public good is a good that is available for use to everyone. The usage of a public good by one doesn't reduce its usage for another. It is non-excludable, i.e., a person cannot be eliminated from consuming it. It is *also non-rivalrous*, i.e., the consumption of a public good by an individual does not reduce its availability for other people. It is provided as a whole to the society by the government.

The issue **of free-riders** is due to the non - excludability of a public good. These goods are bought by the people without any actual payment. It is a burden on the shared resource. At times, a group of people might overuse it without paying for it.

For example - Infrastructure, Lighthouses, National Security, Official Statistics, etc.

93. Ans. C.

Bank Rate is the rate at which the RBI lends the money to commercial banks without any collateral or security. It is always higher than the repo rate. It directly affects the rate at which the commercial banks lend to the customers. It focuses on the long term requirement of commercial banks. The loan tenure is 28 days.



Repo Rate is the rate charged by the RBI for repurchasing the securities sold by the commercial banks. It involves securities, collaterals, security and bonds. It is always lower than the bank rate. It is handled by the banks and does not affect the customers. It focuses on the short term requirement of commercial banks. The loan tenure is just 1 day.

Reverse Repo Rate is the rate charged by the RBI for repurchasing the securities bought by the commercial banks. The main objective is to reduce the overall supply of money in the economy. It is lower than the repo rate.

94. Ans. A.

A 'rightward shift' in the Supply Curve indicates an increase in supply due to the change in factors other than the price. These factors are:

1. Fall in the price of factors of production-rent, wages, capital, and profit.
2. Fall in the price of other commodities
3. Fall in the taxes imposed by the government
4. Improvement in technology.

A 'leftward shift' in the supply curve indicates a decrease in supply due to the change in factors other than the price. These factors are:

1. A rise in the price of factors of production-rent, wages, capital, and profit.
2. A rise in the price of other commodities
3. A rise in the taxes imposed by the government
4. Outdated technology.

An *Expansion in Supply* will lead to an upward shift in the supply curve. The rise in the quantity supplied is due to the rise in the price of the commodity.

A *Contraction in Supply* will lead to a downward shift in the supply curve. The fall in the quantity supplied is due to the fall in the price of the commodity.



95. Ans. D.

In a Mixed Economy, both the central economy and the market economy coexists. India follows the system of a mixed economy. It has the following features:

1. A Mixed Economy has three sectors - private, public and joint sector. The joint sector is run by both government and private companies; 51 % of the ownership belongs to the state.
2. The cooperative sector exists which is financially aided by the government.
3. All the individuals have the freedom to produce goods and choose or demand the goods they want. The government maintains a check on these activities to keep a check on malpractices and discrimination of any form.
4. The aim is to maximize social welfare, reduce the wealth gap and increase employment.
5. It also aims at improving social security, education and health facilities.

96. Ans. A.

The WTO or World Trade Organization was formed as a result of the Uruguay round. The members of the *GATT - General Agreement on Trade and Tariff* signed an agreement on 1 April 1994 and WTO was established on 1 January 1995.

Its headquarter is in Geneva, Switzerland. It has 164 members, as of Jul 2016. The last two members to join it were Liberia and Afghanistan

The highest policy-making body of WTO is the Ministerial Conference. Many countries are not a part of WTO such as Algeria, Iran, Siberia, Sudan, etc.

Main Objective of WTO:

- 1) To improve the living standard of member countries.
- 2) To enlarge the production and trade of goods.
- 3) To improve the Balance of payment situations of member countries.



The Most Favoured Nation or MFN clause requires a country to provide concessions and privileges to other countries in a trade agreement to all other member countries.

97. Ans. A.

Elasticity of Demand is the degree of responsiveness of demand to the changes in the determinants of demand such as the price of the goods, price of related goods or income of the consumer. It is of three types:

1. *Income elasticity of Demand*: It is the degree of responsiveness of quantity demanded to the change in the income of a consumer.
2. *Price elasticity of Demand*: It is the degree of responsiveness of quantity demanded to the change in the price of the goods.
3. *Cross elasticity of Demand*: It is the degree of responsiveness of quantity demanded to the change in the price of the related good.

Income Elasticity of Demand is of importance to the industries and business units to forecast how their demand would be affected by the change in the income of the consumers. The higher the elasticity of demand for a good, the more responsive it is to changes in the income of the consumer.

98. Ans. B.

The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation releases the estimates of Gross Domestic Product (GDP), both at Constant (2011-12) and Current Prices.

99. Ans. A.

Budget Estimates represent the government's wishes & ambitions. Revised Budget Estimates show how the expenditure is likely to turn out.

Every year, the Budget is presented before the Parliament by the Union finance minister. During the speech, the funds allocated for several jobs and activities and ministries. These numbers are known as Budget estimates. For instance, if the government sets Rs 1,000 crore aside for the defence, then Rs 1,000 crore will be the Budget estimate for the defence for the given financial year.



One thing to point out here is that these estimates are not exact numbers or the final commitment by the government to any particular sector. These are just the estimates of the extent of expenditure the government is willing to go for. The government later gives the revised estimate of how much is possible for it to extend to the said sector. The revised estimates & budget estimates may vary, but the difference cannot be huge. The actuals are the numbers which represent the actual amount extended by the government to the sector concerned.

100. Ans. C.

The item having the highest weight in the consumer price index for industrial workers is food.

The weight schemes in CPI for Industrial Workers include food, pan, supari, tobacco, fuel and lighting, housing, clothing, and miscellaneous expenses. The food is the most critical component that has the highest weight. It implies that the food price changes have a significant impact on the CPI.

101. Ans. A.

- **Shakti Sinha** has authored the book titled "**Vajpayee: The Years that Changed India**".
- **The** new book on former PM was released on his 96th birth anniversary.
- **Shakti Sinha** has worked with Vajpayee as the secretary to the leader of the Opposition (1996-97) and as his private secretary (1998-99).
- The book published by **Penguin Random House** India narrates the political philosophy of Vajpayee and provides the insights of his thoughts and how he worked.
- The book of 10 chapters portrays the struggles and difficulties faced by him during his term as PM of India.

102. Ans. D.

- The Centre has sanctioned Rs 37.87 crore for the facelift of Parshuram Kund pilgrimage site in Arunachal Pradesh's Lohit district.



- Parshuram Kund is one of the most sacred places in the country which is visited by a large number of pilgrims throughout the year and thousands of people take a holy dip in the Lohit river during Makar Sankranti.
- It is expected to boost the livelihood of the locals & socio-economic development of the area.
- Using the funds, the steps leading to the Kund, better services & suitable accommodation for visitors will be developed.

103. Ans. E.

- Henley and Partners Passport Index of 2021 has come out with a new ranking of the world's most powerful passports, and India ranks 85th on the new list.
- Last year, India held 84th position. Indian passport got a score of 58, which means Indian passport holders get to visit 58 countries without prior visa. India shared the rank with Tajikistan.
- Japan, once again topped the list with a visa-free score of 191. The nation has been holding the position for three consecutive years, either solely or jointly, with Singapore. This year, Singapore sits at the second position with 190 countries.

104. Ans. C.

- The Punjab government has launched E-Daakhil portal to streamline grievances redressal system.
- The E-Daakhil has been developed under the new Consumer Protection Act 2019 envisages filling of consumer disputes electronically to Consumer Dispute Redressal Commission.
- The portal will provide online e-filing of the consumer dispute to the state commission or any of the 20 district commissions in the state.
- The department has also set up consumer helpline number and mediation cell at Punjab State Consumer Dispute Redressal Commission and 20 District Consumer Dispute Redressal Commissions to address the grievances.



105. Ans. C.

- As part of the efforts to enhance community experience for women entrepreneurs in India, Flipkart & NITI Aayog have collaborated to launch the updated Women Entrepreneurship Platform (WEP). WEP is a first of its kind, unified access portal launched by NITI Aayog in 2017 to support Women Entrepreneurs.
- The revamped platform has multiple regional language support, allows interaction with women, fellow women entrepreneurs and mentors to communicate and also has a Question and Answer Portal.
- The community on WEP platform will connect women entrepreneurs who seek clarification on GST, funding, effects of the pandemic & progression of already established businesses.
- Through the platform, mentorship is also being offered to women mentees through a dedicated online mechanism.

106. Ans. B.

- The United Nations Environmental Programme (UNEP) has named seven persons for this year's "Young Champions of the Earth" 2020 award.
- A 29-year-old Indian entrepreneur is among the seven winners of the prestigious "Young Champions of the Earth" 2020 prize given by the UN environment agency to global change-makers using innovative ideas and ambitious action to help solve some of the world's most pressing environmental challenges.
- Vidyut Mohan, an engineer, is the co-founder of "Takachar", a social enterprise enabling farmers to prevent open burning of their waste farm residues and earn extra income by converting them into value-added chemicals like activated carbon on-site, UN Environment Programme (UNEP).

107. Ans. A.

- Union Minister for Social Justice and Empowerment Thaawar Chand Gehlot has launched 'Swachhata Abhiyan' mobile app to identify and geotag insanitary latrines and manual scavengers.



- It will provide the authorities concerned details of any insanitary latrine or manual scavenger they notice.

108. Ans. C.

- West Bengal Pradesh Congress Committee president Somendranath Mitra passed away at a city hospital in Kolkata.
- A veteran Congress leader, Somen Mitra as he was often referred to, took charge of West Bengal Congress in 2018.
- He played a crucial role in forging an electoral understanding of Left parties and Congress in the 2019 Lok Sabha polls.
- This was his third stint as Bengal Congress chief.
- Mitra, who was an influential leader of Congress from the north Kolkata rose to prominence in the 1970s.
- He became MLA in 1972 from Sealdah Assembly seat, and went on to represent the constituency seven times.

109. Ans. A.

- Parliamentary Committee on Labour has, in its latest report, recommended that the eligibility period for gratuity payable to an employee on termination of his employment should be reduced to one year from the present provision of five years.
- The Committee made this recommendation in its report on Social Security Code, which has been evolved subsuming nine Central Labour laws.
- The committee, which is headed by Biju Janta Dal MP Bharatruhari Mahtab, submitted the report to Speaker Om Birla.
- It has further recommended that this facility be extended to all kinds of employees, including contract labourers, seasonal workers, piece rate workers and fixed term employees and daily/monthly wage workers.

110. Ans. D.



- Jai Bhawani women's cooperative textile mill which is set to come up at Parbhani, Maharashtra will be the first Textile Mill in Asia which will operate on Solar Power.
- The Textile Mill is spread across Thirty acres of land and will process cotton to cloth.
- Once Functional, the mill will provide jobs to many women in the district.
- Ginning, Pressing, Weaving and Spinning of cotton will be done in the mill itself.
- It is being set up at a cost of INR 100 Crores and will add momentum to the industrial sector in the district.
- Parbhani is the leading cotton producing district in Maharashtra. Majority of the farmers grow cotton as it is seen as a profitable investment.

111. Ans. C.

- In a game-changing plan, the financial capital of India, Mumbai (Maharashtra) has become the first city in the country with a gender-specific city's urban plan which has provisions for designated spaces for the needs of women.
- The Brihanmumbai Municipal Corporation (BMC) has added a chapter titled 'Gender, Special Groups and Social Equity' under the Revised Draft Development Plan (RDDP) 2034.
- The plan proposed "departure from gender blindness to gender mainstreaming".
- This revision has been after women from various sectors collaborated to challenge the lack of a gender perspective in urban planning approved by the state government in 2018.

112. Ans. B.

- * Legendary Argentine footballer, Diego Maradona, widely regarded among the greatest football players of all time passed away following a heart attack.
- * Maradona had begun his professional career with Argentinos Juniors at the age of 16 and he went on to become one of the greatest players to ever play the game of football.
- * The ace footballer represented Boca Juniors, Barcelona, Napoli, Sevilla, and Newell's Old Boys as a player.



* Diego was considered the main player in taking Argentina to their second World Cup title in 1986. Maradona also coached Racing Club, Dorados, Gimnasia and the Argentina national team.

* Argentina has declared three-day mourning for the legendary footballer.

113. Ans. B.

- The Giant Metrewave Radio Telescope (GMRT) has been selected as a 'Milestone' facility by the U.S.-based Institute of Electrical and Electronics Engineers (IEEE).
- It is an array of thirty parabolic radio telescopes of 45-metre diameter in Pune.
- IEEE is the world's largest technical professional organisation dedicated to advancing technology in all areas related to electrical and electronics engineering.
- The previous two Indian IEEE Milestones were for the pioneering work done by Sir J.C. Bose to demonstrate the generation and reception of radio waves in 1895 (recognised in 2012), and for the Nobel Prize-winning (in 1930) 'scattering of light' phenomenon observed by Sir C.V. Raman in 1928.

114. Ans. C.

The current External Affairs Minister Dr S. Jaishankar recently represented India at the 15thEAS (East Asia Summit) on behalf of PM Modi. This year's summit was chaired by the Prime Minister of Vietnam Nguyen Xuan Phuc as Vietnam is ASEAN Chair in 2020 (the ASEAN holds the main role and leadership in the forum). All the eighteen EAS countries participated in the virtual Summit.

S. Jaishankar underlined the critical role played by the East Asia Summit (EAS) as a leading mechanism of the Indo-Pacific region and reiterated the India's support to make it stronger and more responsive. He even re-affirmed the importance of EAS as the Leaders-led forum to exchange views on strategic issues. On Covid-19, he briefed the EAS leaders about India's response to the pandemic and highlighted the India's efforts to support the international community.

115. Ans. B.



The Prime Minister, Shri Narendra Modi, recently unveiled 'Statue of Peace' in order to mark the 151st birth anniversary celebrations of the Jainacharya Shri Vijay VallabhSurishwer Ji Maharaj, through video conferencing. The Statue unveiled in the honour of the Jain acharya has been named as the 'Statue of Peace'. This tall statue has been made from the Ashtadhatu, i.e. 8 metals, with Copper being the principal constituent, and is installed at the Vijay VallabhSadhana Kendra, Jetpura, in Pali of Rajasthan.

The Prime Minister even paid tribute to the Jainacharya, and the spiritual leaders present on occasion. Mentioning the two 'Vallabhs', SardarVallabh Bhai Patel and the Jainacharya Shree Vijay VallabhSurishwer Ji Maharaj, the PM said that he feels blessed by the certainty that after fully dedicating the tallest statue of the world of Sardar Patel, i.e. 'Statue of Unity', he is getting the opportunity to disclose the 'Statue of Peace' of Shri Vijay Vallabh.

116. Ans. D.

In West Bengal, Kolkata will soon feature the India's first-ever 'Tyre Park', where artworks made from the scrap and defective parts will be on display. The West Bengal Transport Corporation (WBTC) will launch this Tyre Park.

The Tyre Park, which will set up at the Esplanade area, would have a small cafe where the people can sit, relax and enjoy the craftsmanship made from tyres. No scrap material can be labelled as the waste, it can be reused & converted into an art form. The scrap tyres, lying as waste in various bus depots, have been converted and reworked to colourful shapes by the in-house team of the WBTC.

117. Ans. B.

Kabartal, a freshwater marsh in Begusarai district, has become the Bihar's first wetland site under Ramsar Convention, an inter-governmental global treaty to preserve the ecological character of selected wetlands across the globe.

With this, India has now 39 Ramsar sites - highest in South Asia - among 2,412 such designated wetlands around the globe. These 39 wetlands of international significance cover a surface area of over 10,700 sq km, an area nearly the size of Sikkim.

Under the 1971 Ramsar (Iran) Convention, the member countries identify the sites which can be of critical value not only for the country or the countries in which they are located but for the humanity as a whole for their eco-services and rich biodiversity.



118. Ans. A.

* A Belarusian pro-democracy campaigner, an imprisoned Iranian human rights lawyer, a US civil rights attorney, and a Nicaraguan activist won a top Swedish honour sometimes called "the alternative Nobel Prize.

* Ales Bialiatski of Belarus and his NGO Viasna, Nasrin Sotoudeh of Iran, Bryan Stevenson of the United States and indigenous rights and environmental activist Lottie Cunningham Wren of Nicaragua share the Right Livelihood Award.

* Although the Right Livelihood Award is promoted as an "Alternative Nobel Prize", it is not a Nobel prize. The top Swedish award has been honouring courageous changemakers since 1980, aimed at boosting urgent and long-term social change.

119. Ans. E.

- On the occasion of 75th Anniversary of Food and Agriculture Organisation (FAO), Prime Minister Narendra Modi released a commemorative coin of Rs 75 denomination to mark the long-standing relation of India with FAO.

- The Prime Minister also dedicated to the nation 17 recently developed biofortified varieties of eight crops.

- The event marks the highest priority accorded by the government to agriculture and nutrition, and is a testament of the resolve to completely eliminate hunger, undernourishment and malnutrition.

120. Ans. B.

- The multi-national food and beverage major PepsiCo is setting up a greenfield potato chips production unit in Uttar Pradesh with an investment of Rs. 814 crore.

- The unit is being set up in Kosi - Mathura on 35 acres of land provided by UP State Industrial Development Authority (UPSIDA).

- The unit, which is expected to commence commercial production by middle of the next year, will facilitate direct and indirect employment to about 1,500 patrons.



- MoU was signed by PepsiCo to set up this project at UP Investors Summit-2018 and the project started with the arrangement of land at the ground breaking ceremony held in July 2019.
- This is the first time that PepsiCo is setting up a greenfield project in state itself.

