TEST SERIES 7/25-2017-18…Answer and Explanation. 03/02/2018

1. **Ans: b**
   On Aurangzeb's death his three sons fought among themselves for the throne The 65-year old Bahadur Shah emerged victorious; While previously the contest for power had been between royal princes, and the nobles had merely aided the aspirants to the throne, now ambitious nobles became direct contenders for power and used princes as mere pawns to capture the seats of authority. The Marath:m sardars began their northern expansion and overran Malwa, Gujarat and Bundelkhand, Then, in I738 &1739, Nadir Shah descended upon the plains of northern India, and the Empire lay prostrate.
2. **Ans: a**
   The burden of land revenue went on increasing from Akbar's time. Moreover, constant transfer of nobles from their jagirs also led to great evil. They tried to extract at much from a jagir as possible in the short period of their tenure as jagirdars.
3. **Ans: c**
4. **Ans: d**
   The Nawabs of Bengal neglected to build a strong army and paid a heavy price for it. And when, in 1756-57, the English East India Company declared war on Siraj-ud-Daulah, the successor of Alivardi, the absence of a strong army contributed much to the victory of the foreigner; The Bengal Nawabs also failed to check the growing corruption among their officials Even judicial officials, the gazrs and niuftis, were given to taking bribes. The foreign companies took full advantage of this weakness to undermine official rules and regulations and policies.
5. **Ans: d**
   statement 1-It was Hyder Ali and not Tipu; Hyder Ali practised religious toleration and his first Dewan and many other officials were Hindu;
6. **Ans: c**
   He showed a keen interest in the French Revolution. He planted a `Tree of Liberty' at Srirangapatam and he became a member of a Jacobin Club.
7. **Ans: b**
   The **kingdom** of Travancore rose into prominence after 1729 under King Martanda Varma, one of the leading statesmen of the 18th century. He organised a strong army on the western model with the help of European officers and armed it with modern weapons. He undertook many irrigation works, built roads and canals for communication, and gave active encouragement to foreign trade.
8. **Ans: b**
   Five observatories were built at Delhi, Mathura (in his Agra province), Benares, Ujjain (capital of his Malwa province), and his own capital of Jaipur. His astronomical observations were remarkably accurate.
9. **Ans: a**
   The Sikhs were organised into *12 misls* or confederacies, which operated in different parts of the province.These misls fully **cooperated** with each other. Gradually the democratic character of the mists disappeared and powerful chiefs dominated.
10. **Ans: b**
    Shivaji had not introduced these taxes. The rulers of Deccan were already familiar with these terms well before Shivaji. In fact, Portuguese had also paid these taxes to the neighbouring kings of their territories to avoid conflicts with them Chauth and sardeshmukhi were the taxes collected not in theMaratha kingdom but in the neighbouring territories of the Mughal Empire or Deccan sultanates. Chauth was one fourth of the land revenue paid to the Marathas in order to avoid the Maratha raids. Sardeshmukhi was an additional levy of ten percent on those lands which the Marathas claimed heredi-tary rights. Chauth and sardeshmukhi were the two instruments used by Shivaji to obtain treasure frame the enemy country he invaded.
11. **Ans: a**
    In 1600, the East India Company acquired a charter from the ruler of England, Queen Elizabeth I, granting it the sole right to trade with the East. This meant that no other trading group in England could compete with the East India Company. The royal charter, however, could not prevent other European powers from entering the Eastern markets.
12. **Ans: b**
13. **Ans: d**
    The Company tried continuously to press for more concessions and manipulate existing privileges. Aurangzeb's farman, for instance, had granted only the Company the right to trade duty free. But officials of the Company, who were carrying on private trade on the side, were expected to pay duty. This they refused to pay, causing an enormous loss of revenue for Bengal.
14. **Ans: a**
    One of the main reasons for the defeat of the Nawab was that the forces led by Mir Jafar, one of Sirajuddaulah's commanders, never fought the battle. Clive had managed to secure his support by promising to make him nawab after crushing Sirajuddaulah.
15. **Ans: b**
    Only Bengal; The Diwani allowed the Company to use the vast revenue resources of Bengal. This solved a major problem that the Company had earlier faced. From the early eighteenth century its trade with India had expanded. But it had to buy most of the goods in India with gold and silver imported from Britain. This was because at this time Britain had no goods to sell in India. The

outflow of gold from Britain slowed after the Battle of Plassey, and entirely stopped after the assumption of Diwani. Now revenues from India could finance Company expenses.

16. **Ans: d**
    It was framed by Lord Wellesley, British Governor-General in India from 1798 to 1805
17. **Ans: b**
    The doctrine declared that if an Indian ruler died without a male heir his kingdom would "lapse", that is, become part of Company territory. One kingdom after another was annexed simply by applying this doctrine: Satara (1848), Sambalpur (1850), Udaipur (1852), Nagpur (1853) and Jhansi (1854). in 1856, the Company also took over Awadh. This time the British had an added argument – they said they were "obliged by duty" to take over Awadh in order to free the people from the "misgovernment" of the Nawab.
18. **Ans: d**
    It is the other way around; From 1772 a new system of justice was established. Each district was to have two courts – a criminal court (faujdari adalat) and a civil court (diwani adalat). Maulvis and Hindu pandits interpreted Indian laws for the European district collectors who presided over civil courts. The criminal courts were still under a qazi and a mufti but under the supervision of the collectors.
19. **Ans: a**
    The Permanent Settlement, however, created problems. Company officials soon discovered that the zamindars were in fact not investing in the improvement of land. The revenue that had been fixed was so high that the zamindars found it difficult to pay. Anyone who failed to pay the revenue lost his zamindari. Numerous zamindaris were sold off at auctions organised by the Company.
20. **Ans: a**
    Ryotwari System was introduced by Thomas Munro; Holt Mackenzie devised mahalwari;
21. **Ans: d**
    statement1-these are areas of ryotwari; stmt 2- areas of Mahalwari; Permanent settlement in Bengal, Bihar, Orissa and Varanasi
22. **Ans: b**
    In NIJ cultivation planter directly employ hired labour to produce indigo while in ryot system, planter force the ryot to sign an agreement to produce indigo. In NIJ cultivation less than 25 percent of land should be under indigo cultivation while in ryot system, at least 25 percent of land should be under indigo cultivation.
23. **Ans: a**
    his play was essential to the Indigo revolt of February–March 1859 in Bengal, when farmers refused to sow indigo in their fields to protest against exploitative farming under the British Raj. The play created a huge controversy which was later banned by the East India Company to control the agitation among the Indians.
24. **Ans: c**
    Settled peasants were easier to control and administer than people who were always on the move. The British also wanted a regular revenue source for the state. The British effort to settle jhum cultivators was not very successful. Settled plough cultivation is not easy in areas where water is scarce and the soil is dry. In fact, jhum cultivators who took to plough cultivation often suffered, since their fields did not produce good yields.
25. **Ans: d**
    The British decided to respect the customary religious and social practices of the people in India and to not to reform the society; this was to gain the support of the orthodox section of the society;
26. **Ans: d**
    The WTO deals with regulation of trade in goods, services and intellectual property between participating countries by providing a framework for negotiating trade agreements and a dispute resolution process aimed at enforcing participants' adherence to WTO agreements, which are signed by representatives of member governments.
    National treatment means that imported goods should be treated no less favourably than domestically produced goods (at least after the foreign goods have entered the market) and was introduced to tackle **non-tariff barriers** to trade (e.g. technical standards, security standards etc. which are discriminatory against imported goods).
27. **Ans: a**
    They distort trade balance because they encourage excessive production, therefor given country's product becomes cheaper than others, in the international market.
    These supports are subject to limits: "de minimis" minimal supports are allowed (generally 5% of agricultural production for developed countries, 10% for developing countries).
    Examples of such subsidies include input subsidies such as **electricity, seeds, fertilizers, irrigation, minimum support prices** etc.
    In WTO terminology, subsidies in general are identified by "boxes" which are given the colours of traffic lights: green (permitted), amber (slow down — i.e. need to be reduced), red (forbidden). In agriculture, things are, as usual, more complicated. The Agriculture Agreement has no red box, although domestic support exceeding the reduction commitment levels in the amber box is

prohibited; and there is a blue box for subsidies that are tied to programmes that limit production. There are also exemptions for developing countries (sometimes called an **"S&D box" or "development box**").

Green box subsidies

The subsidies which don't distort the trade are placed in Green Box subsidies. Examples of such subsidies include those given on research funding; environment protection; domestic food aid; disaster relief; farmer training programmes; pest and disease control programmes etc. The WTO pacts don't place any limit on such subsidies so any country can provide such subsidies as much as it wants. However, these subsidies should be government funded and must not involve price support.

Blue Box Subsidies

Blue box subsidies are also similar to amber box but they tend to limit the production. For example, subsidy on minimum support price will increase with production, so it would be placed in amber box; but at the same time, subsidy fixed on area of farms will not increase with production – so would be placed in blue box. Thus, a subsidy that would be placed in amber box normally would be placed in blue box if that support also requires to limit their production.

28. **Ans: b**

WTO members concluded negotiations at the 2013 Bali Ministerial Conference on the landmark Trade Facilitation Agreement (TFA), which entered into force on 22 February 2017 following its ratification by two-thirds of the WTO membership.
The TFA contains provisions for expediting the movement, release and clearance of goods, including goods in transit.

29. **Ans: a**

Bonds are referred to as fixed-income investment instruments because they promise the holder a fixed payment.

A bond holders get a fixed amount of money as interest. This interest is unrelated to inflation and is declared at the time of issuing the bond;

Debtors gain from inflation because they repay creditors with money that are worth less in terms of purchasing power.

30. **Ans: c**

31. **Ans: c**

SLR (Statutory Liquidity Ratio) is the share of bank's total deposit that it needs to maintain (or keep) with itself as liquid assets.

The commercial banks in India require to maintain it in the form of cash, gold, government approved securities before providing credit to the customers.

32. **Ans: b**

Statement 1 is Repo rate definition;

If RBI increases this Reverse Repo rate, it means RBI wants to contraction of credit. When RBI gets loan from banks at high rate of interest, more and more banks will supply to central bank because it is safe and earning is more. Effect of this will on financial market. Supply of money in financial market will decrease. Due to decrease in the supply of credit in the market, inflation rate will decrease.

33. **Ans: d**

All statements are correct; repo defined in previous question;

34. **Ans: c**

Under CRR a certain percentage of the total bank deposits has to be kept in the current account with RBI which means banks do not have access to that much amount for any economic activity or commercial activity.

Banks can't lend that money to corporates or individual borrowers, banks can't use that money for investment purposes. So, that CRR remains in current account and banks don't earn anything on that. They used to do once upon a time. From March 31, 2007 onwards, RBI does not pay any interest on the CRR balances maintained by Scheduled Commercial Banks;

35. **Ans: c**

The balance of payments (BoP) record the transactions in goods, services and assets between residents of a country with the rest of the world. There are two main accounts in the BoP – the **current account** and the **capital account**.
The current account records **exports and imports** in goods and services and **transfer payments**.
The capital account records all international purchases and sales of assets such as money, stocks, bonds, etc. It includes foreign investments and loans.

36. **Ans: b**

Regur soil is the local name of black soil found in the Deccan plateau. They are famous for the cultivation of cotton and is also called as **Cotton Soil.**

37. **Ans: c**

The laterite soils develop in areas with high temperature and high rainfall. These are the result of intense leaching due to tropical rains. With rain, lime and silica are leached away, and soils rich in iron oxide and aluminium compound are left behind. Humus content of the soil is removed fast by bacteria that thrives well in high temperature. These soils are poor in organic matter, nitrogen, phosphate and calcium, while iron oxide and potash are in excess. Hence, laterites are not suitable for cultivation; however, application of manures and fertilisers are required

38. **Ans: a**

In ancient times, soils used to be classified into two main groups – **Urvara** and **Usara**, which were fertile and sterile, respectively. Saline soil is Usara soil.

39. **Ans: d**

In winter months, the weather conditions over India are generally influenced by the distribution of pressure in Central and Western Asia. A high pressure centre in the region lying to the north of the Himalayas develops during winter. This centre of high pressure gives rise to the flow of air at the low level from the north towards the Indian subcontinent, south of the mountain range. The surface winds blowing out of the high pressure centre over Central Asia reach India in the form of a dry continental air mass. These continental winds come in contact with trade winds over north-western India. The position of this contact zone is not, however, stable. Occasionally, it may shift its position as far east as the middle Ganga valley with the result that the whole of the north-western and northern India up to the middle Ganga valley comes under the influence of dry north-western wind.
Tibetan highlands act as a barrier in the path of these jet streams. As a result, jet streams get bifurcated. One of its branches blows to the north of the Tibetan highlands, while the southern branch blows in an eastward direction, south of the Himalayas. It has its mean position at 25°N in February at 200-300 mb level. It is believed that this southern branch of the jet stream exercises an important influence on the winter weather in India.
Western cyclonic disturbances which enter the Indian subcontinent from the west and the northwest during the winter months, originate over the Mediterranean Sea and are brought into India by the westerly jet stream. An increase in the prevailing night temperature generally indicates an advance in the arrival of these cyclones disturbances.

40. **Ans: d**

They are found in the areas of heavy rainfall and high humidity, where there is a good growth of vegetation. Thus, large quantity of dead organic matter accumulates in these areas, and this gives a rich humus and organic content to the soil.
Organic matter in these soils may go even up to 40-50 per cent. These soils are normally heavy and black in colour.
At many places, they are alkaline also. It occurs widely in the northern part of Bihar, southern part of Uttaranchal and the coastal areas of West Bengal, Orissa and Tamil Nadu.

41. **Ans: a**

Red soil is rich in iron and is poor in nitrogen, phosphorus and humus. Rest of the information are correct.

42. **Ans: a**

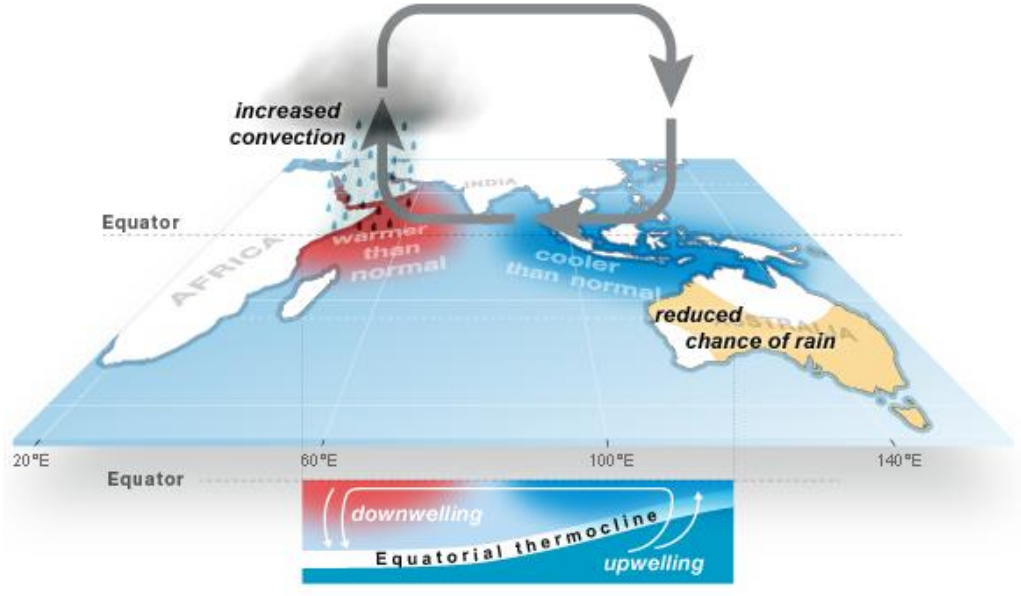
By the middle of July, the low pressure belt nearer the surface [termed as Inter Tropical Convergence Zone (ITCZ)] shifts northwards, roughly parallel to the Himalayas between 20° N and 25° N. ITCZ being a zone of low pressure, attracts inflow of winds from different directions. The maritime tropical airmass (mT) from the southern hemisphere, after crossing the equator,

rushes to the low pressure area in the general south-westerly direction. It is this moist air current which is popularly known as the southwest monsoon. So ITCZ is also called as Monsoon Trough.

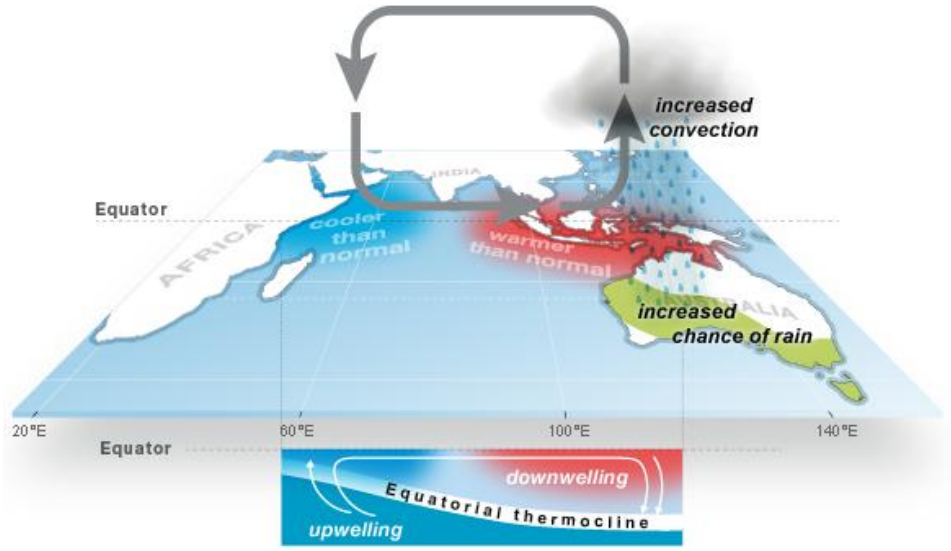
43. **Ans: b**

Easterly jet stream flows over the southern part of the Peninsula in June, and has a maximum speed of 90 km per hour. In August, it is confined to 15°N latitude, and in September up to 22° N latitudes (It won't come to 8^0 N latitude).
The easterlies normally do not extend to the north of 30° N latitude in the upper atmosphere.
It sets in 15°N latitude only after the western jet stream has withdrawn.

44. **Ans: a**



Indian Ocean Dipole (IOD): **Positive phase**



Indian Ocean Dipole (IOD): **Negative phase**

The Indian Ocean Dipole (IOD), also known as the **Indian Niño**, is an irregular oscillation of sea-surface temperatures in which the western Indian Ocean becomes alternately warmer and then colder than the eastern part of the ocean.
The IOD involves an aperiodic oscillation of sea-surface temperatures, between "**positive**", "**neutral**" **and** "**negative**" phases.

A positive phase sees greater-than-average sea-surface temperatures and greater precipitation in the western Indian Ocean region, with a corresponding cooling of waters in the eastern Indian Ocean—which tends to cause droughts in adjacent land areas of Indonesia and Australia.

The negative phase of the IOD brings about the opposite conditions, with warmer water and greater precipitation in the eastern Indian Ocean, and cooler and drier conditions in the west.

The IOD also affects the strength of monsoons over the Indian subcontinent. During positive IOD, there will be adequate supply of moisture which will nullify the lack of moisture due to El-Nino.

In neutral IOD phase, water from the Pacific flows between the islands of Indonesia, keeping seas to Australia's northwest warm. Air rises above this area and falls over the western half of the Indian Ocean basin, blowing westerly winds along the equator. Temperatures are close to normal across the tropical Indian Ocean, and hence the neutral IOD results in little change to Australia's climate.

45. **Ans: c**

During the south-west monsoon period after having rains for a few days, if rain fails to occur for one or more weeks, it is known as break in the monsoon. These dry spells are quite common during the rainy season. These breaks in the different regions are due to different reasons:

i) In northern India rains are likely to fail if the rain-bearing storms are not very frequent along the monsoon trough or the ITCZ over this region.

ii) Over the west coast the dry spells are associated with days when winds blow parallel to the coast.

46. **Ans: a**

i. **Mango Shower**: Towards the end of summer, there are pre-monsoon showers which are a common phenomenon in Kerala and coastal areas of Karnataka. Locally, they are known as mango showers since they help in the early ripening of mangoes.

ii. **Blossom Shower**: With this shower, coffee flowers blossom in Kerala and nearby areas.

iii. **Nor Westers**: These are dreaded evening thunderstorms in Bengal and Assam. Their notorious nature can be understood from the local nomenclature of **'Kalbaisakhi'**, a calamity of the month of Baisakh. These showers are useful for tea, jute and rice cultivation. In Assam, these storms are known as **"Bardoli Chheerha".**

iv. **Loo**: Hot, dry and oppressing winds blowing in the Northern plains from Punjab to Bihar with higher intensity between Delhi and Patna.

47. **Ans: b**

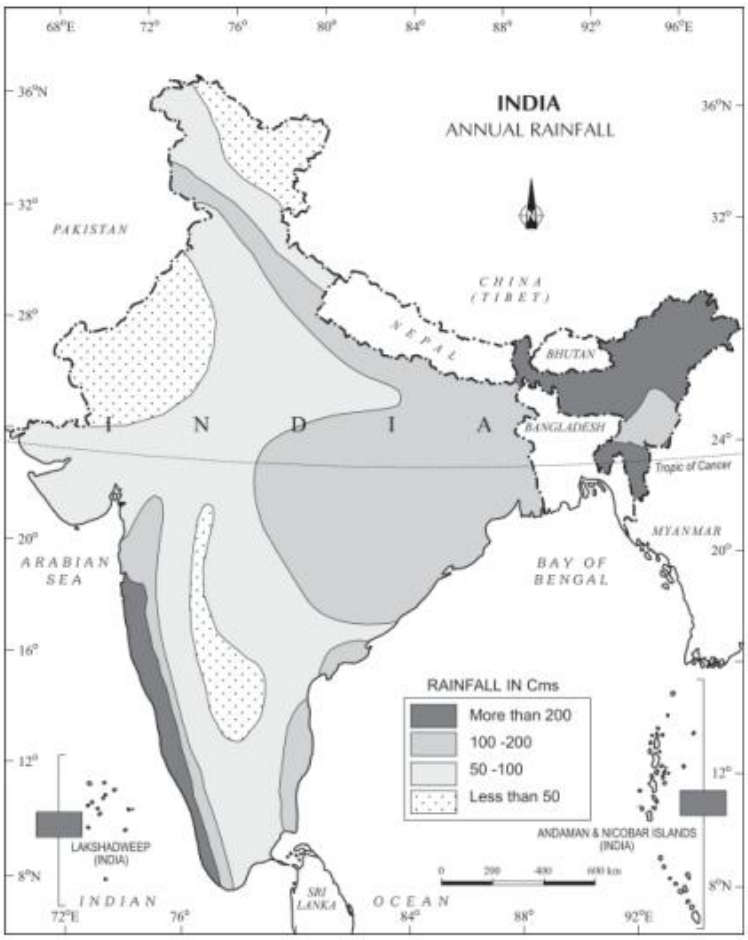
Informative and self-explanatory.

48. **Ans: d**

Areas of Low Rainfall: Western Uttar Pradesh, Delhi, Haryana, Punjab, Jammu and Kashmir, eastern Rajasthan, Gujarat and Deccan Plateau receive rainfall between 50-100 cm.

Areas of Inadequate Rainfall: Parts of the Peninsula, especially in Andhra Pradesh, Karnataka and Maharashtra, Ladakh and most of western Rajasthan receive rainfall below 50 cm.

Total area covers approximately 50% of India's total land area



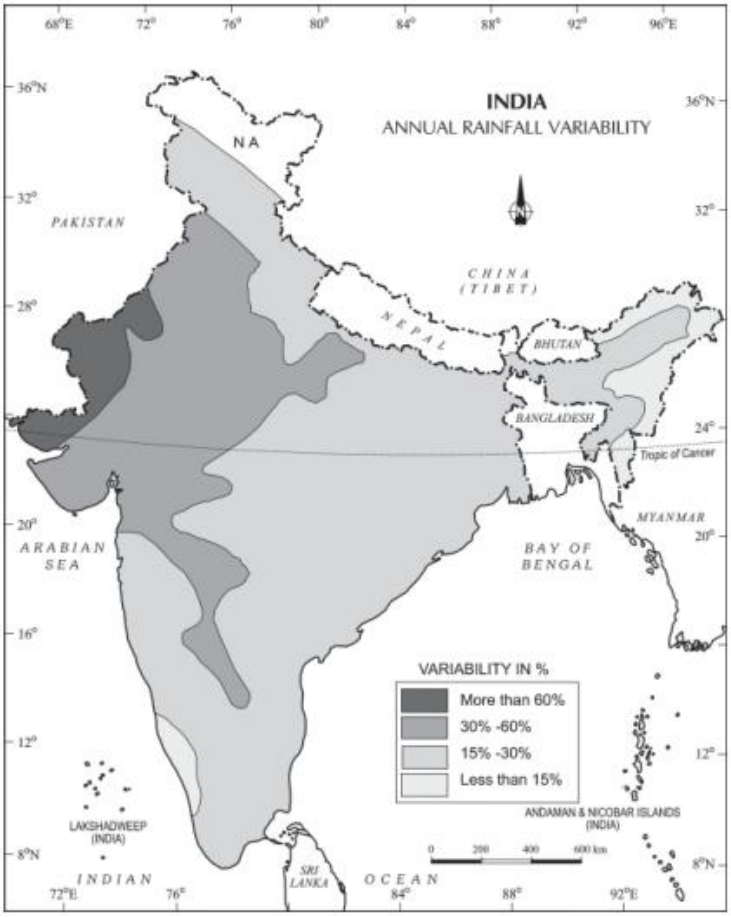
49. **Ans: c**

A variability of less than 25 per cent exists on the western coasts, Western Ghats, north-eastern Peninsula, eastern plains of the Ganga, north-eastern India, Uttarakhand and Himachal Pradesh and south-western part of Jammu and Kashmir. These areas have an annual rainfall of over 100 cm.

A variability of over 50 per cent exists in the western part of Rajasthan, northern part of Jammu and Kashmir and interior parts of the Deccan plateau. These areas have an annual rainfall of less than 50 cm.

Rest of India have a variability of 25-50 per cent and these areas receive an annual rainfall between 50 -100 cm.

In the western parts of Rajasthan, variability is more than 60%.



50. **Ans: d**

Forest soils are loamy and silty on valley sides and coarse-grained in the upper slopes. Rest of the statements are Informative and self-explanatory.

51. **Ans: c**

The semi evergreen forests are found in the less rainy parts of these regions. Such forests have a mixture of evergreen and moist deciduous trees. The under growing climbers provide an evergreen character to these forests. Main species are white cedar, hollock and kail. These are seen in Western Ghats, Andaman and Nicobar Islands as well as Eastern Himalayas

52. **Ans: b**

India's forest and tree cover has increased and now is 24.16% of the total geographical area. Major increase in the forest cover has been observed in open forests, **outside** the forest area. 40% of the forest cover is in 9 big patches of 10,000 km^2 or more. Total mangrove cover increased

53. **Ans: a**

Social forestry means the management and protection of forests and afforestation on barren lands with the purpose of helping in the environmental, social and rural development.

The National Commission on Agriculture (1976) has classified social forestry into three categories.

a. **Urban forestry** pertains to the raising and management of trees on public and privately owned lands in and around urban centres such as green belts, parks, roadside avenues, industrial and commercial green belts, etc.
b. **Rural forestry** lays emphasis on promotion of **agro-forestry** and **community-forestry**.
    i. **Agro-forestry** is the raising of trees and agriculture crops on the same land inclusive of the waste patches. It combines forestry with agriculture, thus, altering the simultaneous production of food, fodder, fuel, timber and fruit.
    ii. **Community forestry** involves the raising of trees on public or community land such as the village pasture and temple land, roadside, canal bank, strips along railway lines, and schools etc. Community forestry

programme aims at providing benefits to the community as a whole. It provides a means under which the people of landless classes can associate themselves in tree raising and thus, get those benefits which otherwise are restricted for landowners.

c. **Farm forestry** is a term applied to the process under which farmers grow trees for commercial and non-commercial purposes on their farm lands. Forest departments of various states distribute seedlings of trees free of cost to small and medium farmers. Several lands such as the margins of agricultural fields, grasslands and pastures, land around homes and cow sheds may be used for raising trees under non-commercial farm forestry

54. **Ans: b**

Informative and self-explanatory

55. **Ans: c**

The forest policy aimed at

i. bringing 33 per cent of the **geographical area** under forest cover
ii. maintaining environmental stability and to restore forests where ecological balance was disturbed;
iii. conserving the natural heritage of the country, its biological diversity and genetic pool
iv. checks soil erosion, extension of the desert lands and reduction of floods and droughts
v. increasing the forest cover through social forestry and afforestation on degraded land
vi. increasing the productivity of forests to make timber, fuel, fodder and food available to rural population dependant on forests, and encourage the substitution of wood
vii. creating of a massive peoples movement involving women to encourage planting of trees, stop felling of trees and thus, reduce pressure on the existing forest

56. **Ans: d**

Statement 1, 2 and 3 are informatory while 4 is wrong. According to Article 324, EC shall consist of CEC and such number of other election commissioners if any, as the president may from time to time fix

57. **Ans: a**

Article 324 of the Constitution has made the provisions to safeguard and ensure the independent and impartial functioning of the Election Commission. He can be removed by the president on the basis of a resolution passed to that effect by both the Houses of Parliament with special majority, either on the ground of proved misbehaviour or incapacity. Thus, he does not hold his office till the pleasure of the president, though he is appointed by him.

Service conditions of CEC cannot be varied to his disadvantage after his appointment. It can be varied otherwise

58. **Ans: b**

UPSC can serve all or any need of a state concerning the recruitment upon the request of the governor of the state and with the approval of President of India

59. **Ans: d**

All the statements are correct and is informational.

89th Constitutional Amendment Act of 20036 bifurcated the combined National Commission for SCs and STs into two separate bodies, namely, National Commission for Scheduled Castes (under Article 338) and National Commission for Scheduled Tribes (under Article 338-A).

The separate National Commission for SCs came into existence in 2004. It consists of a chairperson, a vice-chairperson and three other members. They are appointed by the President by warrant under his hand and seal. Their conditions of service and tenure of office are also determined by the President

The Commission is vested with the power to regulate its own procedure. The Commission, while investigating any matter or inquiring into any complaint, has all the powers of a civil court trying a suit.

The Commission is also required to discharge similar functions with regard to the other backward classes (OBCs) and the Anglo-Indian Community as it does with respect to the SCs. In other words, the Commission has to investigate all matters relating to the constitutional and other legal safeguards for the OBCs and the Anglo-Indian Community and report to the President upon their working

60. **Ans: b**

The UPSC consists of a chairman and other members appointed by the president of India. The Constitution, without specifying the strength of the Commission has left the matter to the discretion of the president, who determines its composition. Usually, the

Commission consists of nine to eleven members including the chairman. Further, no qualifications are prescribed for the Commission's membership except that one-half of the members of the Commission should be such persons who have held office for at least ten years either under the Government of India or under the government of a state.

The President can appoint one of the members of the UPSC as an acting chairman (provision was added by the 15th Amendment Act of 1963) in the following two circumstances:

a. When the office of the chairman falls vacant; or
b. When the chairman is unable to perform his functions due to absence or some other reason

President can also remove the chairman or any other member of UPSC for misbehaviour. However, in this case, the president has to refer the matter to the Supreme Court for an enquiry. If the Supreme Court, after the enquiry. The advice tendered by the Supreme Court in this regard is binding on the president

61. **Ans: a**

In 2005, the President specified the following other functions of the Commission in relation to the protection, welfare and development and advancement of the STs:

i) Measures to be taken over conferring ownership rights in respect of minor forest produce to STs living in forest areas
ii) Measures to be taken to safeguard rights of the tribal communities over mineral resources, water resources etc., as per law
iii) Measures to be taken for the development of tribals and to work for more viable livelihood strategies
iv) Measures to be taken to improve the efficacy of relief and rehabilitation measures for tribal groups displaced by development projects
v) Measures to be taken to prevent alienation of tribal people from land and to effectively rehabilitate such people in whose case alienation has already taken place
vi) Measures to be taken to elicit maximum cooperation and involvement of tribal communities for protecting forests and undertaking social afforestation
vii) Measures to be taken to ensure full implementation of the Provisions of Panchayats (Extension to the Scheduled Areas) Act, 1996
viii) Measures to be taken to reduce and ultimately eliminate the practice of shifting cultivation by tribals that lead to their continuous disempowerment and degradation of land and the environment.

62. **Ans: c**

The chairman of UPSC (on ceasing to hold office) is not eligible for further employment in the Government of India or a state. A member of UPSC (on ceasing to hold office) is eligible for appointment as the chairman of UPSC or a State Public Service Commission (SPSC), but not for any other employment in the Government of India or a state. So statement one is not correct because a member can be appointed as the chairman after his role as a member, which is an employment under GOI.

In 1979, the Supreme Court upheld the validity of appointment of A R Kidwai, a former Chairman of UPSC, as the governor of Bihar. It ruled that the office of the governor is a 'constitutional office' and not an employment under the government.

Statements 3 and 4 are correct and is informative

63. **Ans: b**

The Constitution makes a provision for the establishment of a Joint State Public Service Commission (JSPSC) for two or more states. While the UPSC and the SPSC are created directly by the Constitution, a JSPSC can be created by an act of Parliament on the request of the state legislatures concerned. Thus, a JSPSC is a statutory and not a constitutional body. The two states of Punjab and Haryana had a JSPSC for a short period, after the creation of Haryana out of Punjab in 1966. The chairman and members of a JSPSC are appointed by the president. They hold office for a term of six years or until they attain the age of 62 years, whichever is earlier. They can be suspended or removed by the president. They can also resign from their offices at any time by submitting their resignation letters to the president.

The number of members of a JSPSC and their conditions of service are determined by the president. A JSPSC presents its annual performance report to each of the concerned state governors. Each governor places the report before the state legislature.

64. **Ans: d**

All the statements are correct and is informative.

The Constitution authorises the Parliament to determine the qualifications of members of the commission and the manner in which they should be selected. Accordingly, the Parliament has specified the qualifications of the chairman and members of the commission.

The chairman should be a person having experience in public affairs and the four other members should be selected from amongst the following:

1. A judge of high court or one qualified to be appointed as one.
2. A person who has specialised knowledge of finance and accounts of the government.
3. A person who has wide experience in financial matters and in administration.
4. A person who has special knowledge of economics.

65. **Ans: c**

It cannot decide but recommend to the president, the distribution of the net proceeds of taxes to be shared between the Centre and the states, and the allocation between the states of the respective shares of such proceeds. It is purely the decision of centre to accept it or decline the recommendation

It also recommends to the president, the measures needed to augment the consolidated fund of a state to supplement the resources of the panchayats and the municipalities in the state on the basis of the recommendations made by the state finance commission

66. **Ans: a**

Originally, the Constitution of India did not make any provision with respect to the Special Officer for Linguistic Minorities1. Later, the States Reorganisation Commission (1953-55) made a recommendation in this regard. Accordingly, the Seventh Constitutional Amendment Act of 1956 inserted a new Article 350-B in Part XVII of the Constitution.

The Commissioner has his headquarters at Allahabad (Uttar Pradesh). He has three regional offices at Belgaum (Karnataka), Chennai (Tamil Nadu) and Kolkata (West Bengal). Each is headed by an Assistant Commissioner. The Commissioner is assisted at headquarters by Deputy Commissioner and an Assistant Commissioner. He maintains liaison with the State Governments and Union Territories through nodal officers appointed by them.

At the Central level, the Commissioner falls under the Ministry of Minority Affairs. Hence, he submits the annual reports or other reports to the President through the Union Minority Affairs Minister

A linguistic minority is a group of people whose mother tongue is different from that of the majority in the state or part of a state. Thus, the linguistic minorities are determined on a state-wise basis.

67. **Ans: c**

CAG and CEC cannot be removed from his office except in same manner and on the same grounds as a judge of the Supreme Court. In other words, he can be removed by the president on the basis of a resolution passed to that effect by both the Houses of Parliament with special majority, either on the ground of proved misbehaviour or incapacity. Thus, he does not hold his office till the pleasure of the president, though he is appointed by him.

The President can remove the chairman or any other member of UPSC from the office under the following circumstances:

(a) If he is adjudged an insolvent (that is, has gone bankrupt);
(b) If he engages, during his term of office, in any paid employment outside the duties of his office; or
(c) If he is, in the opinion of the president, unfit to continue in office by reason of infirmity of mind or body.

In addition to these, the president can also remove the chairman or any other member of UPSC for misbehaviour. However, in this case, the president has to refer the matter to the Supreme Court for an enquiry and should act as per SC advice

President can remove the Chief Information Commissioner or any Information Commissioner from the office under the following circumstances:

(a) if he is adjudged an insolvent; or
(b) if he has been convicted of an offence which (in the opinion of the President) involves a moral turpitude; or
(c) if he engages during his term of office in any paid employment outside the duties of his office; or
(d) if he is (in the opinion of the President) unfit to continue in office due to infirmity of mind or body; or
(e) if he has acquired such financial or other interest as is likely to affect prejudicially his official functions

In addition to these, the president can also remove the chairman or any other member of UPSC for misbehaviour. However, in this case, the president has to refer the matter to the Supreme Court for an enquiry and can act as per SC advice

68. **Ans: d**

Informative

The CAG has 'to ascertain whether money shown in the accounts as having been disbursed was legally available for and applicable to the service or the purpose to which they have been applied or charged and whether the expenditure conforms to the authority that governs it'. In addition to this legal and regulatory audit, the CAG can also conduct the propriety audit, that is, he can look into

the 'wisdom, faithfulness and economy' of government expenditure and comment on the wastefulness and extravagance of such expenditure. However, unlike the legal and regulatory audit, which is obligatory on the part of the CAG, the propriety audit is discretionary.

The role of CAG in the auditing of public corporations is limited.

(a) Some corporations are **audited totally and directly** by the CAG, for example, Damodar Valley Corporation, Oil and Natural Gas Commission, Air India, Indian Airlines Corporation, and others.

(b) Some other corporations are **audited by private professional auditors who are appointed by the Central Government in consultation with the CAG**. If necessary, the CAG can conduct supplementary audit. The examples are, Central Warehousing Corporation, Industrial Finance Corporation, and others.

(c) Some other corporations are **totally subjected to private audit**. In other words, their audit is done exclusively by private professional auditors and the CAG does not come into the picture at all. They submit their annual reports and accounts directly to the Parliament. Examples of such corporations are Life Insurance Corporation of India, Reserve Bank of India, State Bank of India, Food Corporation of India, and others.

The conditions of service of persons serving in the Indian Audit and Accounts Department and the administrative powers of the CAG are prescribed by the president after consultation with the CAG

69. **Ans: b**

The term of office of the Attorney General or Advocate General is not fixed by the Constitution. Further, the Constitution does not contain the procedure and grounds for their removal. They holds office during the pleasure of the president and governor respectively. This means that the may be removed by the president or governor at any time. They may also quit by submitting resignation to the president or governor respectively. Conventionally, they resign when the government (council of ministers) resigns or is replaced, as they are appointed on its advice.

Attorney general should be a person who is qualified to be appointed a judge of the Supreme Court and the advocate general must be a person who is qualified to be appointed a judge of a high court. Unlike the Supreme Court, the Constitution makes no provision for appointment of an eminent jurist as a judge of high court

70. **Ans: d**

State Public Service Commission consists of a chairman and other members appointed by the governor of the state. The chairman and members of the Commission hold office for a term of six years or until they attain the age of 62 years, whichever is earlier (in the case of UPSC, the age limit is 65 years). However, they can relinquish their offices at any time by addressing their resignation to the governor.

Although the chairman and members of a SPSC are appointed by the governor, they can be removed only by the president (and not by the governor). The president can remove them on the same grounds and in the same manner as he can remove a chairman or a member of the UPSC.

71. **Ans: b**

Home Ministry monitors foreign funds donated to NGOs and organisations through the FCRA. But for effective monitoring it also wants to monitor NGOs under FEMA (under finance ministry) as many International donors such as the Ford Foundation, Canada's International Development Research Centre etc. are registered under it.

72. **Ans: a**

The LG of Delhi enjoys greater powers than the LG of Puducherry. The LG of Delhi has "Executive Functions" that allow him to exercise his powers in matters connected to public order, police and land "in consultation with the Chief Minister, if it is so provided under any order issued by the President under Article 239 of the Constitution". The Governor appoints the CM in States but the President appoints the CM and Ministers for UTs, who will hold office during the President's pleasure. Delhi police reports directly to the Home ministry of central government. The state has no control over the police.

73. **Ans: d**

Build by Jivanlal Deshai in 1915, Gandhiji shifted the ashram on bank of Sabramati in 1917. Idea of Ashmarm emanate from Tolstoy Farm (Phoenix Farm) of South Africa. The Sabarmati Ashram (also known as Harijan Ashram) was home to Mohandas Gandhi from 1917 until 1930 and served as one of the main centres of the Indian freedom struggle. When Gandhi started his padayatra (foot march) in 1930 from Sabarmati Ashram to Dandi for the Salt Satyagraha, he had decided not to return to Sabarmati till independence for India was attained. In April 1936, Gandhiji established his residence in the village Shegaon which he renamed as Sevagram, which means 'village of service'

74. **Ans: b**

Key recommendations of Subramanian panel

Increase public spending on education from 3% to 6% of GDP. Compulsory certification for teachers in government and private schools. Expand Mid-Day Meal scheme to secondary schools. Teacher Entrance Tests (TET) for recruitment. Discontinue no detention policy after class V. Extend 25% EWS quota in private schools to minority institutions. Allow top foreign universities to open campuses in India. An All-India service Indian Education Service (IES) should be established. Reduction of UGC role to disbursal of scholarships and fellowships & separate law for management of higher education.

75. **Ans: c**

Serampore was the famous colony of Danish under the name Frederiknagore from 1755 to 1845.

76. **Ans: c**

NIRAMAYA scheme is to provide affordable health insurance for PwD. Health insurance cover up to 1 lakh. Scheme has the facility for

- OPD treatment including the medicines, pathology, diagnostic tests, etc,
- Regular Medical check-up for non-ailing disabled,
- Dental Preventive Dentistry,
- Surgery to prevent further aggravation of disability,
- Non- surgical/ hospitalization,
- Corrective surgeries for existing disability including congenital disability,
- Ongoing therapies to reduce impact of disability and disability related complications, Alternative Medicine.
- Transportation costs.

Scheme Description

The scheme envisages delivering comprehensive cover which will

- Have a single premium across age band.
- Provide same coverage irrespective of the type of disability covered under the **National Trust Act.** All persons with disabilities under the National Trust Act with valid disability certificate will be eligible and included.

Insurance cover upto Rs.1.0 lakh, on reimbursement basis only. Treatment can be taken from any hospital. No pre-insurance medical tests required. The scheme will be available in the entire country except J&K.

77. **Ans: d**

Zika virus disease is caused by a virus transmitted primarily by Aedes mosquitoes. Zika can be passed through sex from a person with Zika to his or her partners. People with Zika virus disease can have symptoms including mild fever, skin rash, conjunctivitis, muscle and joint pain, malaise or headache. These symptoms normally last for 2-7 days. There is scientific consensus that Zika virus is a cause of Microcephaly and Guillain-Barré syndrome. An additional area of concern is the difference between Zika on the one hand and dengue or chikungunya on the other. While the latter conditions occur soon after a mosquito bite, the presence of the Zika virus will be known six months later, after the birth of Microcephalic infants.

78. **Ans: a**

Starting from the launch of Aryabhatta in 1975, the success story of ISRO is a matter of pride for India. 100th launching was done in January 2018. We have a history of 300+ satellites being successfully launched into space. PSLV, the most successful launching vehicle anywhere in the world was used for launching Chandrayaan, Mangalyaan, Astrosat, Cartosat. It can be used for launching low weight (upto 1200 kg) geo synchronous satellites.

79. **Ans: d**

IGMDP covers **Agni**, **Akash**, **Trishul**, **Prithvi** and **Nag**.

Prithvi is India's surface to surface short range ballistic missile and India's first indigenously developed ballistic missile.

Trishul is short range surface to air missile.

Akash is surface to air missile, which is medium range.

Nag is India's fire and forget anti-tank missile.

80. **Ans: d**

Self-explanatory

National Crisis Management Committee (NCMC) has been constituted in the Cabinet Secretariat. The composition of the Committee is as under:-

- Cabinet Secretary Chairman
- Secretary to Prime Minister Member
- Secretary (MHA) Member
- Secretary (MCD) Member
- Director (IB) Member
- Secretary (R&AW) Member
- Secretary (Agri & Coopn.) Co-opted Member
- An officer of Cabinet Secretariat. Convenor

When a situation is to be handled also by the NCMC, it will give such directions to the Crisis Management Group of the Ministry as deemed necessary. The Secretary (A&C) will be responsible for ensuring that all developments are brought to the notice of the NCMC promptly

81. **Ans: c**

Any animal which poses a threat to human and their livelihood especially farming, can be declared Vermin under Schedule V of Wildlife Protection act 1972. States can send a list of wild animals to the Centre requesting it to declare them vermin for selective slaughter. Wildlife Protection Act 1972, empower every State's Chief Wildlife Warden for culling. Wild boars, nilgai and rhesus monkeys are protected under Schedule II and III, but can be hunted under specific conditions. Schedule VI contains plants, which are prohibited from cultivation and planting. Out of VI schedules, Schedule I and part II od schedule II provides absolute protection and offences under these are prescribed the highest penalties.

82. **Ans: c**

Founded in 1883. Helps in conservation and biodiversity research. Collaborated with technology company Accenture to create **Internet of Birds**, an online tool for birdwatchers that identifies birds based on their photos

83. **Ans: b**

Atomic clocks are the most accurate time and frequency standards known, and are used as primary standards for international time distribution services, to control the wave frequency of television broadcasts, and in global navigation satellite systems such as GPS. A rubidium atomic clock is a frequency standard in which a specified hyperfine transition of electrons in rubidium-87 atoms is used to control the output frequency. It is the most inexpensive, compact, and widely used type of atomic clock.

84. **Ans: d**

Bishnoism Started in 1485 AD by Saint Guru Jambheshwar. They live in western Rajasthan and environment conservation is their cultural part. Amrita Devi Bishnoi is the martyr of early Chipko Movement of 1730 AD died of protecting Khejri tree. Amrita Devi Bishnoi Wildlife Protection Award by Environment Ministry. They do not fell trees and they only collect dead wood. They oppose to the religious tradition of cremating the dead to save firewood. They do not believe in unnecessary rituals, idol-worship, and caste system. To minimize the use of green trees, they use cow dung cakes as fuel for cooking. One of their principle tenets "Amar Rakhave That" – means to provide shelter for abandoned animals so that they can live the rest of their life with dignity

85. **Ans: a**

Biodiversity hotspot is a term coined by Norman Myers. Conservational International (American NGO) designates biodiversity hotspots.

Criteria is that atleast 1,500 species of vascular plants (> 0.5% of the world's total) as endemics. It has to have lost at least 70% of its original habitat.

Total there are 35 biodiversity hotspots on Earth (4 in India).

Critical Ecosystem Partnership Fund (CEPF) provides fund for management of hotspots. New biodiversity species were from the four biological hotspots of the country.

a. **Himalaya**: Includes the entire Indian Himalayan region.
b. **Indo-Burma**: Includes entire North-eastern India, except Assam and Andaman group of Islands.
c. **Sundalands**: Includes Nicobar group of Islands.
d. **Western Ghats and Sri Lanka**: Includes entire Western Ghats.

86. **Ans: b**

ZSI was established in 1916, with HQ at Calcutta. It got evolved from Asiatic Society of Bengal and Zoological Section of the Indian Museum. It is under Ministry of Environment Forest and Climate Change. Its functions include

- Exploration, Survey, Inventorying and Monitoring of faunal diversity in various States, Ecosystems and Protected areas of India
- Periodic review of the Status of Threatened and Endemic species,
- Preparation of Red Data Book, Fauna of India and Fauna of States.

ZSI emblem has an image of Indian Gaur (Indian Baison) in it

87. **Ans: a**

Sendai framework for Disaster Risk Reduction (DRR) (2015-2030) is an international document which was adopted by UN member states. It is the successor of **Hyogo framework for action.** Sendai is in Japan.

88. **Ans: b**

It is located on the western fringes of Hyderabad in Telangana state. It is a man-made lake and was constructed during the reign of Ibrahim Qutb Shah, who ruled the kingdom of Golconda between 1550 and 1580. The lake on the outskirts of the city has become one of the biggest attractions for waterfowl and migratory birds.

89. **Ans: c**

- **Worm**: A program that replicates itself and destroys data and files on the computer. Worms work to "eat" the system operating files and data files until the drive is empty.
- **Trojan**: A Trojan horse or Trojan is a type of malware that is often disguised as a legitimate software. Trojans are written with the purpose of discovering your financial information, taking over your computer's system resources, and in larger systems creating a "denial-of-service attack" which is making a machine or network resource unavailable to those attempting to reach it. Example: Google, AOL, Yahoo or your business network becoming unavailable.
- **Virus**: A virus is a contagious program or code that attaches itself to another piece of software, and then reproduces itself when that software is run. Most often this is spread by sharing software or files between computers.

90. **Ans: a**

"Chicken's Neck" — the narrow Siliguri corridor links the north-east with the rest of India.

91. **Ans: b**

The amount of energy at each trophic level decreases as it moves through an ecosystem. As little as 10% of the energy at any trophic level is transferred to the next level; the rest is lost largely through metabolic processes as heat. **Ecological efficiency** describes the efficiency with which energy is transferred from one trophic level to the next. It is determined by a combination of efficiencies relating to organismic resource acquisition and assimilation in an ecosystem.

Primary production occurs in autotrophic organisms of an ecosystem. Photoautotrophs such as vascular plants and algae convert energy from the sun into energy stored as carbon compounds. Photosynthesis is carried out in the chlorophyll of green plants. The energy converted through photosynthesis is carried through the trophic levels of an ecosystem as organisms consume members of lower trophic levels.

Energy transfer between trophic levels is generally inefficient, such that net receipt at one trophic level is generally only 10% of the net production at the preceding trophic level (the **Ten percent law**, first formulated by Raymond Lindeman). Due to non-predatory death, egestion, and respiration, a significant amount of energy is lost to the environment instead of being absorbed for production by consumers. The figure approximates the fraction of energy available after each stage of energy loss in a typical ecosystem, although these fractions vary greatly from ecosystem to ecosystem and from trophic level to trophic level. The loss of energy by a factor of one half from each of the steps of non-predatory death, defecation, and respiration is typical of many living systems. Thus, the net production at one trophic level is approximately ten percent that of the trophic level before it.

92. **Ans:b**

A UPSC previous question

If the Sea temperature were to rise, first the water content in atmosphere would rise. All weather phenomena is a function of the content of water vapour in the atmosphere. With increase in water vapour content, weather phenomenon would only increase and likelihood of storms would increase.

Coral bleaching would also increase.

Habitat destruction (such as in the Poles) would increase.

Invasive species would also spread as they would find weather conditions more suitable outside the current habitat. For example, tropical plants would even spread to higher latitudes. There would be loss of diversity.

Now Salinity of oceans would increase or decrease is a matter of debate. With increased evaporation owing to the high temperature, sea water salinity would increase. Again, polar ice caps would melt and add more water and would reduce the salinity. Increase in water level would mean the sea water entering lakes and even polluting freshwater water bodies and aquifers.. A projected increase in the rain due to climate change may reduce the ocean salinity. What would be the exact outcome on salinity is debatable, and hence cannot conclude that it will increase or decrease. We can only say that in some areas, it is likely for salinity to increase while in some areas, it is likely for salinity to decrease.

93. **Ans: a**

A diverse ecosystem is more stable. More number of links in food web signifies a diverse ecosystem and hence a more stable one. Each organism then have a variety of food sources However, longer food chains are not good. A short food chain plus a large number of links in food web signify a stable ecosystem

94. **Ans: b**

Once constituted, boundaries of the National Park can be altered only on a resolution of the State Legislature. They fall under IUCN Category 2 protected area. Kaziranga National Park is home to the one-horned rhinoceros - one third of the world's population is found here.

More information

A National Park is an area established under section 35 (4) of the Wildlife (Protection) Act, 1972 and no right is allowed within the National Park. Grazing is prohibited in these areas and the general public is legally restrained from destroying, exploiting, or removing any wildlife from the National Park, or destroying or damaging the habitat of any wild animal, or depriving any wild animal of its habitat in the Park.

National Parks have a clearly defined core and buffer zones. Whereas, the core zone is free from any local rights and acts as sanctum sanctorum to allow wildlife to enjoy protected natural habitat, the buffer zone absorbs most of the impact of human activities.

Some extra information:

a. **Biosphere Reserves**

- Biosphere reserves are areas comprising terrestrial, marine and coastal ecosystems. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use.
- They are 'Science for Sustainability support sites' – special places for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity.
- They are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Their status is internationally recognized
- Multi-purpose protected areas
- All plants and animals are preserved in its natural habitat. that is, both the flora and fauna are protected
- It promotes research in ecological conservation and environment preservation
- Its aim is also to provide facility for education & awareness.
- Biosphere reserves have three interrelated zones that aim to fulfil three complementary and mutually reinforcing functions:
  1. The **core area**(s) comprises a strictly protected ecosystem that contributes to the conservation of landscapes, ecosystems, species and genetic variation.
  2. The **buffer zone** surrounds or adjoins the core areas, and is used for activities compatible with sound ecological practices that can reinforce scientific research, monitoring, training and education.
  3. **The transition area** is the part of the reserve where the greatest activity is allowed, fostering economic and human development that is socio-culturally and ecologically sustainable.

b. **Protected Forest**
- Area notified under the provisions of Indian Forest Act or State Forest Act.
- It has **limited degree of protection.**
- The habitat and resident species are legally accorded protection from further depletion
- All activities are **permitted unless prohibited**
- About 29% of the total forest area of the country is in this category

c. **Reserved Forest**
- Area notified under the provisions of Indian Forest Act or State Forest Act.
- It has **full degree of protection**
- All activities like hunting and grazing are **prohibited unless permitted.**
- About 53% of the total forest area falls in this category.

d. **Wildlife Sanctuary:**
- Declared for the purpose of protecting, propagating or developing wildlife or its environment.
- Certain rights of people living inside the Sanctuary could be permitted.
- Further, during the settlement of claims, before finally notifying the Sanctuary, the Collector may, in consultation with the Chief Wildlife Warden, allow the continuation of any right of any person in or over any land within the limits of the Sanctuary.
- It could be private property also

e. **National Park**
- Area which is strictly reserved for protection of wildlife.
- Activities such as grazing, forestry or cultivation are **not allowed**.
- Unlike a Sanctuary, where certain rights can be allowed, in a National Park, no rights are allowed.
- No grazing of any livestock shall also be permitted inside a National Park while in a Sanctuary, the Chief Wildlife Warden may regulate, control or prohibit it

f. **Conservation Reserves**:
- Can be declared by the State Governments in any **area owned by the government**, particularly the areas adjacent to National Parks and Sanctuaries and those areas which link one Protected Area with another.
- Such declaration should be made after having consultations with the local communities.

g. **Community Reserves**:
- Can be declared by the State Government in any **private or community land**, not comprised within a National Park, Sanctuary or a Conservation Reserve, where an individual or a community has volunteered to conserve wildlife and its habitat.

h. **Unclassified Forests**
- Those in which there is **no restriction** on the cutting of trees and grazing of cattle.
- About 18% of the total forest area of the country falls under this category.

95. **Ans: b**

Only atmospheric ozone reflects UV rays and protect us. Ground level ozone is an air pollutant. Ground level or "bad" ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and Volatile Organic Compounds (VOC) in the presence of sunlight (in summer, more sunlight means more ground level Ozone). Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOC. Breathing ozone can trigger a variety of health problems, particularly for children, the elderly, and people of all ages who have lung diseases such as asthma. Ground level ozone can also have harmful effects on sensitive vegetation and ecosystems.

96. **Ans: b**

The Kyoto Protocol to the Convention commits its parties to binding targets based on as a 'basket' of six GHGs, including
1. Carbon Dioxide (CO_2),
2. Methane (CH_4),
3. Nitrous Oxide (N_2O),
4. Hydro Fluorocarbons (HFCs),
5. Per fluorocarbons (PFCs), and

6. Sulphur Hexafluoride (SF_6).

CO_2 accounts for about 82% of all greenhouse gas emissions from human activities Methane is the second most important greenhouse gas even though it only accounts for 9% of total greenhouse gas emissions. It traps up to 100 times more heat in the atmosphere than carbon dioxide within a 5 year period, and 72 times more within a 20 year period. The good news is that methane also leaves the atmosphere within a decade. This makes for a short-lived, but intense climate changer.

Global Warming Potential

Global warming potential (GWP) is a relative measure of how much heat a greenhouse gas traps in the atmosphere. It compares the amount of heat trapped by a certain mass of the gas in question to the amount of heat trapped by a similar mass of carbon dioxide. A GWP is calculated over a specific time interval, commonly 20, 100, or 500 years. GWP is expressed as a factor of carbon dioxide (whose GWP is standardized to 1)

The GWP depends on the following factors:

- the absorption of infrared radiation by a given species
- the spectral location of its absorbing wavelengths
- the atmospheric lifetime of the species

Thus, a high GWP correlates with a large infrared absorption and a long atmospheric lifetime. The dependence of GWP on the wavelength of absorption is more complicated. Even if a gas absorbs radiation efficiently at a certain wavelength, this may not affect its GWP much if the atmosphere already absorbs most radiation at that wavelength. A gas has the most effect if it absorbs in a "window" of wavelengths where the atmosphere is fairly transparent.

GWP of methane is 21 i.e. it is 21 times more powerful than CO_2. CH_4 is more potent than CO_2 because, the radiative forcing (or climate forcing is the difference between insolation absorbed and energy radiated back) produced per molecule is greater. In addition, the infrared window is less saturated in the range of wavelengths of radiation absorbed by CH_4, so more molecules may fill in the region. The heat absorbing potential of Methane is higher than CO_2, but currently its concentration levels is so less that it does not contribute more than CO_2. Agriculture in general and paddy cultivation in particular lead to release of methane in the atmosphere.

97. **Ans: a**

It is formed under Kyoto protocol not Montreal protocol.

A carbon credit (often called a carbon offset) is a financial instrument that represents a tonne of CO_2 (carbon dioxide) or CO_2e (carbon dioxide equivalent gases) removed or reduced from the atmosphere from an emission reduction project, which can be used, by governments, industry or private individuals to offset Carbon emissions due to existing activities.

Please remember that even though Paris climate deal is in force, all other old deals are still hot topics for UPSC☺

Refer https://en.wikipedia.org/wiki/Carbon_emission_trading

98. **Ans: c**

National Air Quality Index

- It is a comprehensive Index to indicate the quality of air in a city and its impact on health.
- AQI will consider 8 pollutants: PM 2.5, PM10, NO_2, SO_2 , CO, O3 , Pb & Ammonia
- Presently CPCB and SPCB are operating national air monitoring programme. Covering 240 cities.
- In the initial phase it will cover 46 cities of million plus population, 20 state capitals.
- It monitors in 6 categories (good, satisfactory, moderately polluted, poor, very poor and severe). It will grade air quality in a colour code chart.

99. **Ans: b**

Instead of 1000 meter radius, it is 100 meter radius.

Green muffler scheme involves the growing green plants along roadsides to reduce noise pollution. Green mufflers are barriers grown near noisy places to reduce the impact of noise. Normally 4 to 5 rows of green plants are grown near the noisy places like highways or industrial areas so that they obstruct the sound reaching citizens. The trees even block sharp lights of the vehicles at the time of night. This is made mandatory in National green highway policy 2015. This scheme is now mandatory to construct highways in many parts of the world.

Whereas the increasing ambient noise levels in public places from various sources, inter-alia, industrial activity, construction activity, generator sets, loud speakers, public address systems, music systems, vehicular horns and other mechanical devices have deleterious effects on human health and the psychological wellbeing of the people, it is considered necessary to regulate and control noise producing and generating sources with the objective of maintaining the ambient air quality standards in respect of noise. This is the moto behind the release of Noise Pollution (Regulation and Control) Rules, 2000

100. **Ans: a**

Bamboo and Tendu leaves are minor forest produce. Only Wood (timber) is a major forest product. All other products are minor. Minor forest products include all products obtainable from the forests other than wood and thus comprise products of vegetable and animal origin.